DAIKIN UNIVERSITY

Daikin
Residential & Light Commercial
Install & Start-Up

Participant Guide

Introduction to Daikin

A History of Integrity, Quality, Growth, and Cutting Edge Technology

Learning Objectives

- Basic understanding of Daikin's history
- Understand Daikin's position in the global marketplace
- Understand Daikin's commitment to the environment and the industry
- Know what other resources are available to you and how to use them to your advantage
- Understand where to go for sales and technical support

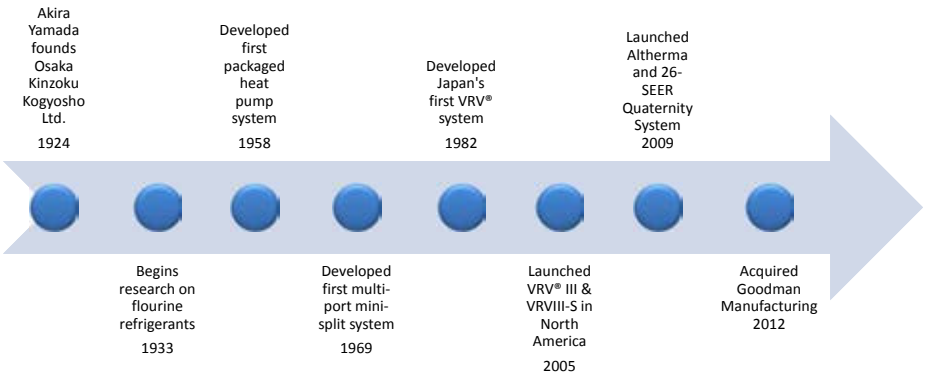
About Daikin

Introduction

About Daikin

Daikin is a comprehensive global HVAC manufacturer offering extensive products, including ducted and ductless air-conditioning and heat pump systems for residential and commercial applications as well as large-sized HVAC systems for buildings and factories.

History (1924 - Present)

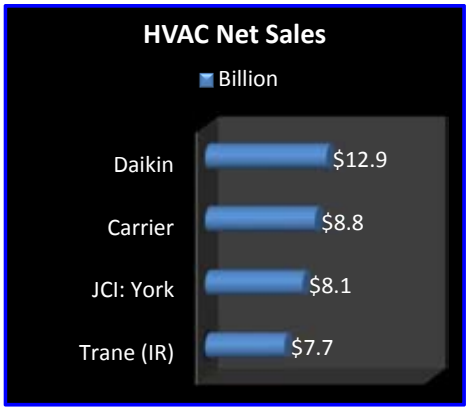


Daikin Quality

- Daikin is committed to providing homes, businesses and industry with the most efficient and safest HVAC solutions to meet your cooling and heating needs, today and in the future.
- We are keenly aware of our responsibility to protect the environment in everything we do, and all our policies, practices and processes are developed and implemented with environmental sustainability at their heart. We conduct our business in accordance with green principles because it makes sound economical, as well as ecological sense.

Daikin's Global Position

- Daikin is the #1 HVAC/R Manufacturer in the world!
- Net sales in HVAC
  - 2012 - $12.9 Billion
- We lead the way in:
  - Energy efficiency
  - Individualized comfort
  - Quality

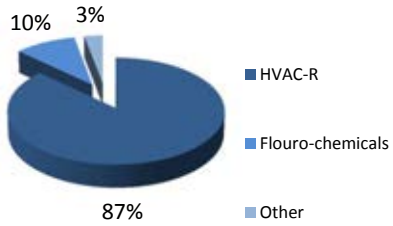


Carrier, Daikin, JCI: York, & Ingersoll Rand Investor Relations Publications
Source: Daikin Estimation, SEC Financial Data for 2011

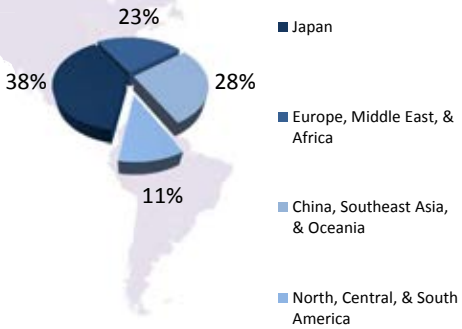
Daikin Dedication

As the only company in the world dedicated to heating and air conditioning systems and refrigerants, almost 90% of Daikin's core business is focused on HVAC-R. Daikin leads the way in energy efficiency, individualized comfort, and quality and is the #1 in HVAC manufacturing sales worldwide.

Sales



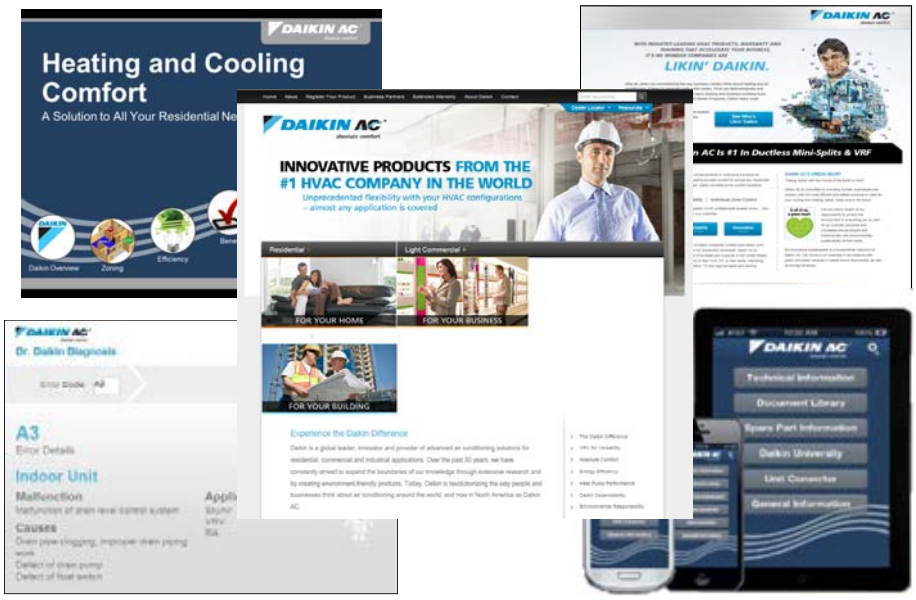
12.9 Billion USD World Wide



Daikin's Investments

Who has made the largest investment in the North American HVAC industry over the last 8 years? *Daikin*.

Trust & World-Class Support

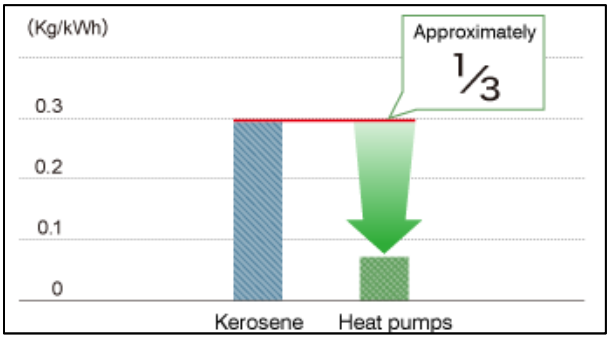


Daikin's Social Responsibility

- Recover – Recycle – Reclaim – Reuse
- Partnerships with AHRI, ASHRAE and others

Environment

Reduce CO_2 with Heat Pump Systems



Daikin North America

Introduction

Daikin North America – Our Vision

Our vision is to be the premier provider of the highest quality air conditioning products, systems, services, and solutions in North America by focusing on outstanding, long-term customer service.

To accomplish this, we will continue to hire the best people, always conduct our business easily and fairly, and operate with the highest degree of integrity in all business practices.

In order to attract and retain the best people, we are committed to providing the best training and creating an atmosphere of teamwork where we help each other grow.

Daikin Sales/Service Locations

Daikin North America National Sales & Service Headquarters & Training Center
Carrollton, TX

Daikin Sales/Service Locations

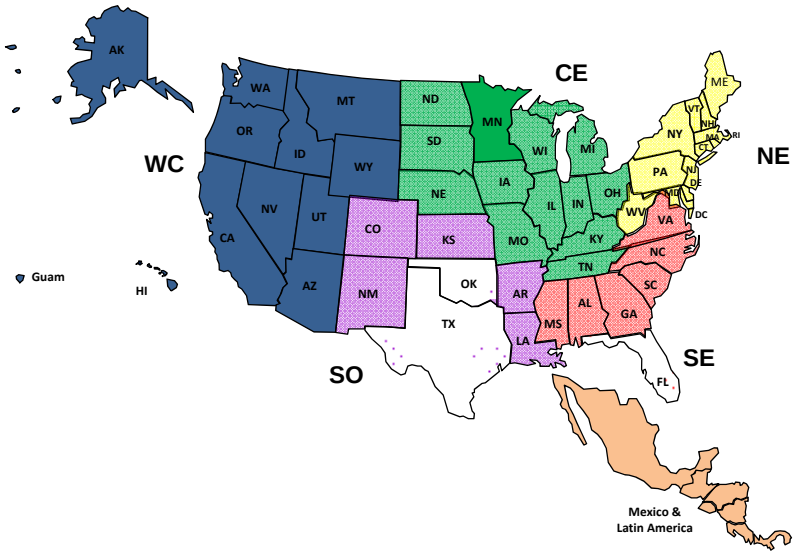
Daikin North America
Western Regional Sales & Training Center
Irvine, CA

Daikin Sales/Service Locations

Daikin North America
Eastern Regional Sales & Training Center
Long Island City in Queens, NY

Daikin North America - Sales Regions

Daikin North America Service Regions



Daikin Support

- **Literature**
  - Brochures
  - Leaflets
  - Submittals
  - Manuals
    - Engineering
    - Service
    - Installation
- **Website**
  - www.Daikinac.com
- **Daikin Representatives and Sales Support Network**

Daikin Support

- **Software Tools**
  - VRV Xpress
  - Energy Calc
  - TRL Technical Reference Library
  - Spare Parts Bank
  - Dr. Daikin
  - Daikin eQuip App
- **Training**
  - Product & Applications by Product Line
  - Installation & Commissioning
  - Service & Troubleshooting
  - Sales Training
  - General Courses
- **Technical Support**
  - Telephone: 866-4DAIKIN (866.432.4546)
  - Email: techsupport@daikinac.com

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DAIKIN

COMFORT FOR LIFE

Thank You

PT-RLC-1207-PP0-01B

Piping & R410A

Field Practices for Piping and Charging *Daikin* Air Conditioning Equipment

Objectives

- Refrigerant recovery and the atmosphere
- Properties of R-410A
- PVE oil
- Identify line set components
- Daikin dedicated tools
- Flared connections

Objectives

- Brazing
- Standing pressure test and leak testing
- Triple evacuation process
- Pipe insulation
- Importance of liquid charging

Daikin Environmental Initiatives

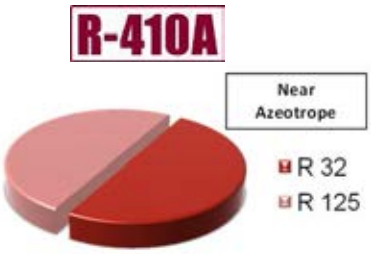
Recover – Recycle – Reclaim - Reuse

***Daikin* cares for our environment**

R-410A

R-410A

- Developed since 1991
- Ozone friendly - No Chlorine
- Significant GWP (1600 to 1800)
- Near Azeotrope
- 50/50 Mixture
- Temperature Glide .02° F
- Not compatible with mineral oils
- No direct drop-in R22 replacement possible
- Generally non toxic, non flammable
- Refrigerant of choice for VRF & Unitary manufacturers

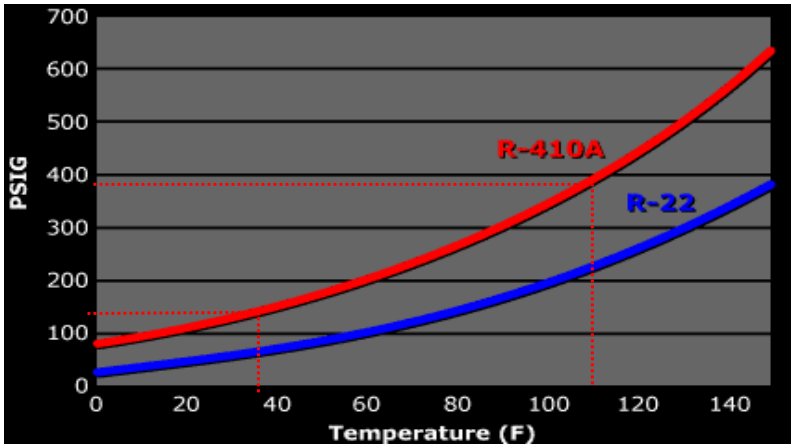


R-410A

- Recovery cylinder must be rated for R-410A
- 400 PSIG Service Pressure Rated
- 800 PSIG Test Pressure Rated
- DOT BA400, DOT BW400

Store refrigerants in a clean, dry area out of direct sunlight. Never heat cylinders above 125°F(52°C).

Pressure Difference

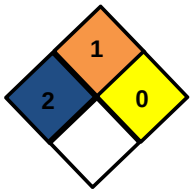


Pressure is approximately 60% higher than with R-22

Adequate tools and service devices needed

R-410A Safety

- Asphyxia
- Heavier than air
- Products of Decomposition
- Skin Irritant
- Frostbite
- Safe Exposure
- Storage below 125 F
- Do not leak test with air



NFPA 704

HMIS®

ASHRAE

Safety Glasses

Gloves

Working with PVE Oil

DAIKIN

Miscibility

DAIKIN

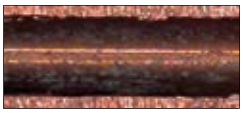
R-410A & Mineral Oil

R-410A & POE/PVE Oil

PolyVinylEther Oil (PVE)

- Compatible with all HFC Refrigerants
- Excellent anti-wear properties
- Better solubility with process fluids
- Superior Resistance to Cap tube blockage
- Better lubricity
- Optimal for non-drier systems
- Very Hygroscopic but with no hydrolysis
- Moisture easily removed

PVE w/ drier



PVE w/o drier

Refrigerant Lines

Line Components

Only install driers, oil traps, shut off valves or any other line components in your piping work if instructed to do so in the IOM documents – if no instruction, it's because it is NOT necessary (for Daikin).

The ONLY acceptable piping is ACR – type (known as refrigeration or dehydrated copper)

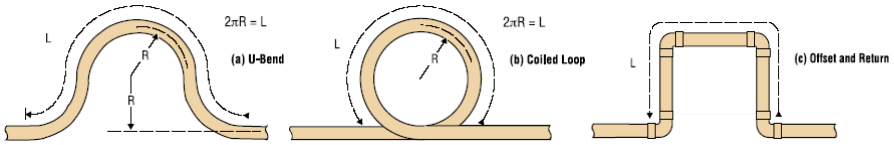
Isolation Valves

- Compatibility with R-410A and PVE *(Polyvinylether)* oil
- Temperature operation range of -40°F to 300°F
- Working pressure of 550 PSIG, capable of handling up to 700 PSIG
- Full flow valve with 0 pressure drop
- Bi-directional flow
- Brazed connections
- Service port in valve body

Pipe Expansion

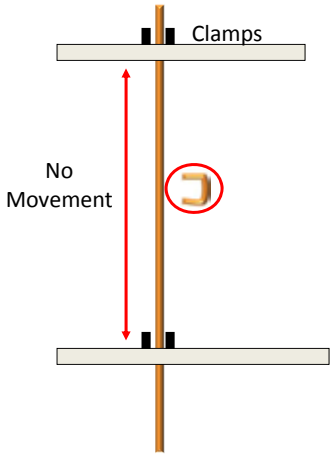
100° F x 100 ft x 12 in./ft. x 0.0000094 in./in./F =1.128 in.

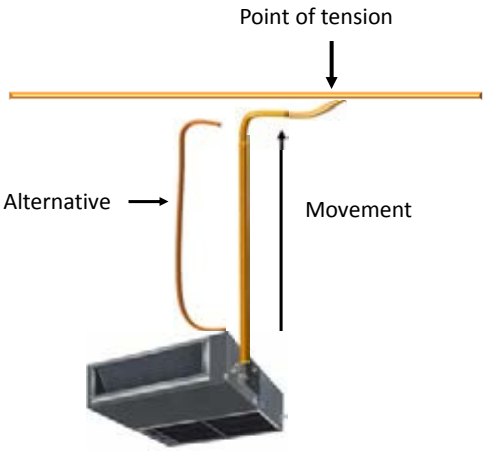
Expected Expansion, inches		Radius "R", inches, for Nominal or Standard Tube Sizes Shown Length "L", inches, for Nominal or Standard Tube Sizes Shown												
		¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	5
½	R	6	7	8	9	11	12	13	15	16	18	19	20	23
	L	38	44	50	59	67	74	80	91	102	111	120	128	142
1	R	9	10	11	13	15	17	18	21	23	25	27	29	32
	L	54	63	70	83	94	104	113	129	144	157	169	180	201
1½	R	11	12	14	16	18	20	22	25	28	30	33	35	39
	L	66	77	86	101	115	127	138	158	176	191	206	220	245
2	R	12	14	16	19	21	23	25	29	32	35	38	41	45
	L	77	89	99	117	133	147	160	183	203	222	239	255	284



Reference: The Copper Tube Handbook published by Copper.org - the #1 resource for technical and professional information regarding copper and copper alloys.

Pipe Expansion





Pipe Expansion

Pipe Expansion

50° F

175° F

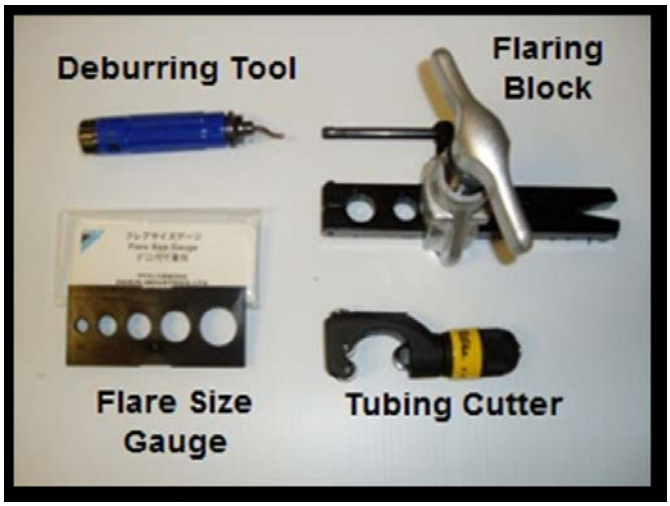
Tools

R-410A Gauges

- Dedicated charge hoses (5/16” flare) to condenser
- Dedicated manifold
- R-410A Rated up to 550 and 800 PSIG
- 5/16” hose connections

Hose Pressure 800 PSIG Rated

Daikin Tools



Other Installation Tools

750 PSIG

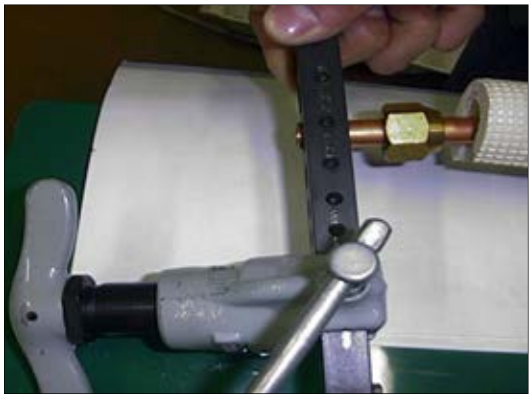
3/8”

Metric

1/4”

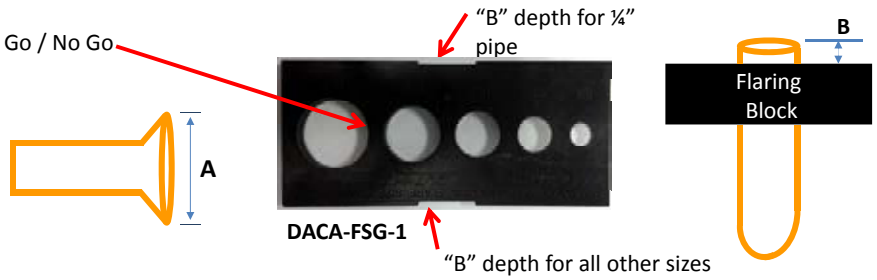
Flaring

Pipe Flaring



Proper deburring is critical to a successful flare

Piping Flaring



Dimension "A" requirement	
Pipe Size	Dimension
1/4"	9.1mm
3/8"	13.2mm
1/2"	16.6mm
5/8"	19.7mm
3/4"	24.0mm

Dimension "B" Requirement	
Pipe Size	Dimension
1/4"	1 mm
3/8"	2 mm
1/2"	2 mm
5/8"	2 mm
3/4"	2 mm

Brazing

Brazing

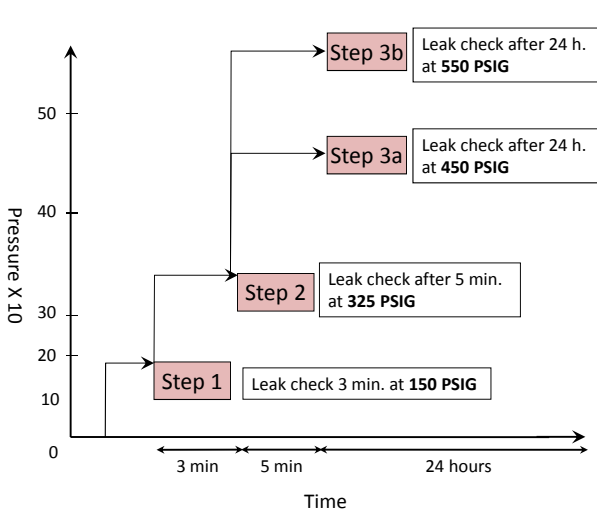
Dry Nitrogen *MUST* be used during all brazing (Pressure regulated to 1.5 to 3 PSIG) to prevent oxidation formation

- Tape in Schrader Fitting
- Set Nitrogen regulator to 1.5 – 3 PSIG
- Leave other end of pipe open

Pressure Test & Evacuation

Pressure Test

Tighten Down Stop Valves Before Pressure Test



If Stop Valves are not tightened down prior to pressure test Nitrogen may leak back through into condenser and contaminate refrigerant.

Pressure Test

Use commercial liquid leak detector

Evacuation

What is a micron as a unit of measurement for a vacuum?

Triple Evacuation

Daikin AC Recommends – Triple Evacuation

Evacuate the system to 4000 microns.

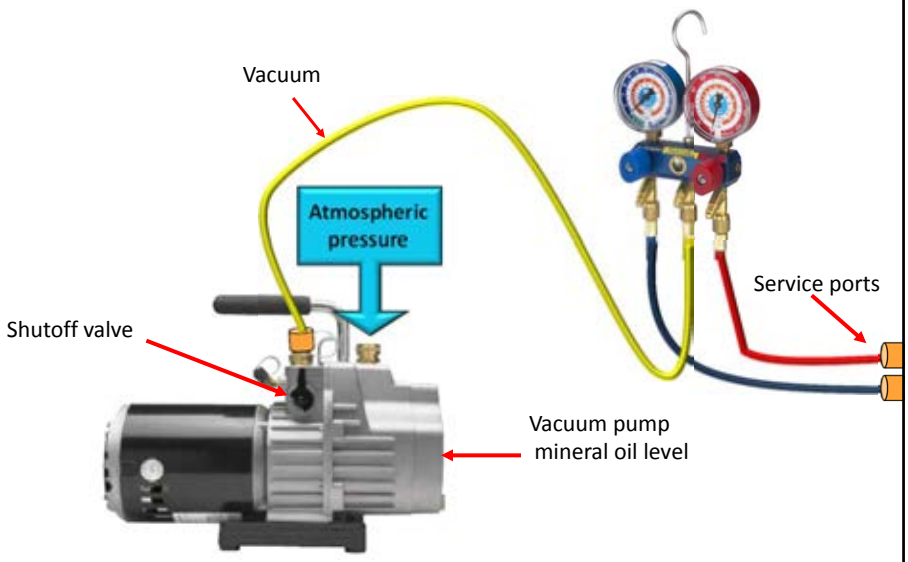
Break vacuum with dry nitrogen to pressure of 2-3 PSIG, hold for 15 minutes.

Evacuate to 1500 microns & maintain for 20 minutes.

Break vacuum with dry nitrogen to pressure of 2-3 PSIG, hold for 15 minutes.

Evacuate to below 500 microns and hold for 60 minutes.

Evacuation



Refrigerant Line Insulation

Insulating Pipe

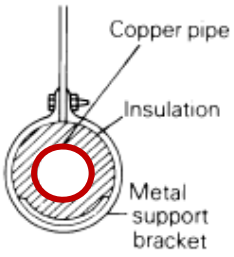
ALL pipe work must be insulated along its full run using 1/2” Wall Insulation (Armaflex etc) minimum.

Take extra care to cover the flare nuts on the fan coils using the insulation provided or condensation will occur causing water leaks.

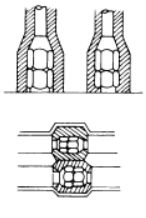
The liquid line must be insulated

Could cause excessive subcooling.

Insulating Hanging Pipe



Insulation of support brackets



System Refrigerant Charging

Additional Refrigerant

Weigh in additional refrigerant with digital scales

- Calculate charge based on total line length x lb/ft of diameter.
- Check with each model for correct multiplier.

Wrap-up

- The Ozone is only part of the equation in refrigerant containment and recycling.
- R-410A is a very efficient blended refrigerant but it requires knowledge and skills to be used correctly and safely.
- Daikin AC chose PVE as for its properties and easier system dehydration.
- Daikin AC does not want dryers, sight glasses, or oil traps on system installations.
- Expansion must be taken into consideration to prevent fractures or cracks in the gas lines due to temperature increases.
- Daikin AC recommends a dedicated tool set including gauges for working on Daikin equipment.

Wrap-up

- R-410A systems require a different flaring block for making flared connections.
- Nitrogen purge while brazing prevents oxidation inside of the lines.
- Pressure test and evacuation must be completed according to best practices in the industry.
- All lines must be insulated including the liquid and the condensate lines.
- Daikin AC requires R-410A to be charged as a liquid and a complete recovery and recharge in the event of a leak.


DAIKIN
COMFORT FOR LIFE
Thank You
PT-CAP-1305-PP0-01B

Product & Technology
Single Phase Four Wire Systems

Single Split, Multi Split, RXS SkyAir, & Quaternity

Topics

- Product Line Up
- Technology
- Indoor Units
- Outdoor Units
- Controls
- Options

Product Line Up

Single & Multi Split, SkyAir, & Quaternity

Slide 5

KE & LV Series (Single Split)

- Single phase power supply to outdoor unit
- Nominal System capacities of 9,000 to 24,000 Btu/h
- Inverter drive technology
- 15.5 (Slim Duct) & 24.5 (Wall Mount) SEER Condensing Units
- Optional wired remote controller

BRC944
Wired
Option

DACA TS1-1
Daikin ENVi
Option

FTXN
Wall Mount

FDXS
Slim Duct

FTXS
Wall Mount

ARC452
Wireless
Included

RXN & RKN_KEVJU

RXS_LVJU

Slide 6

Multi Split 2 to 4-Port

- **Single phase power supply to outdoor unit**
- **System capacities of 18,000 to 32,000 Btu/h**
- **Inverter drive technology**
- **Up to 19.5 SEER (depending on indoor unit combination)**
- **HSPF Ratings up to 9.3 (depending on indoor unit combination)**
- **Optional wired remote controllers**

FFQ
2' x 2' Ceiling Cassette

BRC944
Wired
Option

DACA TS1-1
Daikin ENVi
Option

CDXS/FDXS
Slim Duct

FTXS/CTXS
Wall Mount

BRC1E72
Navigation Remote
Option (FFQ only)

ARC452
Wireless
Included

3/4MXS

2MXS

Quaternity

- Ability to Dehumidify to a Humidity Setting
- "Flash Streamer" Air Cleaner for improved Indoor Air Quality
- Wireless Remote Controller shows Ambient Temperature & Room Temperature
- Wireless Remote Controller can be either F or C temperature scale
- System has Comfort and Sound Set-Back ability

ARC447A3
Included

FTXG09/12/15HVJU

RXG09/12/15HVJU

SkyAir (One to One)

- Single phase power supply
- Outdoor unit feeds power to indoor unit
- RXS & RKS 30 - 19.3 SEER
- RXS & RKS 36 - 17.9 SEER
- Swing type compressor
- Wired controller is available as option
- Heat Pump & Cooling Only

RXS & RKS30/36LVJU

FTXS_LVJU
Wall Mount

ARC452
Wireless
Included

DACA TS1-1
Daikin ENVi
Option

BRC944
Wired
Option

Technology

Outdoor Unit Technology

Sine Wave DC Inverter

Use of the smooth sine wave PWM smoothes motor rotation, further improving operating efficiency and reducing offensive operating sounds.

Direct Current Fan Motor

Efficiency improved in all areas compared to conventional AC motors, especially at low speeds.

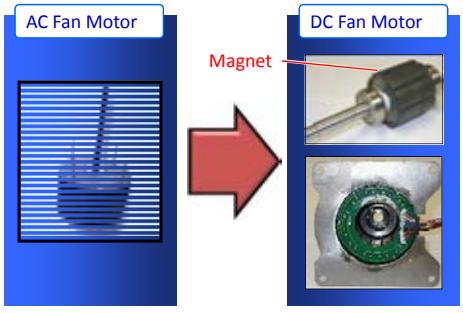
Reluctance Digitally Commutated Compressor

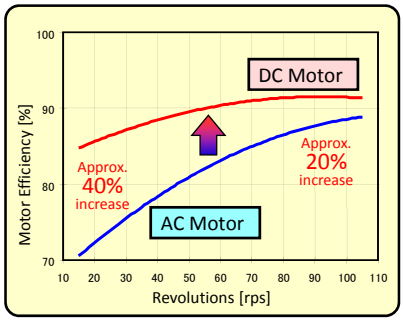
Overheating losses are reduced by pressurizing the area around the motor, boosting energy saving performance in conjunction with other features.

Slide 11

DC Fan Motor Efficiency

Increased efficiency compared to conventional AC induction motors, especially at medium to low speeds





Slide 12

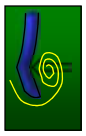
Silent Operation

Smooth Air Inlet Bell Mouth
Smooth inlet bell mouth added guides to the bell mouth intake to reduce turbulence in the fan blades.

31 to 66 Watt Fan Motor

Aero Spiral Fan
The bent fan blade edges control air eddies of blade edge, and drastically reduce operation sound.

Smooth inflow



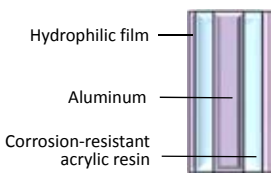
Escaping eddies are sucked in by the bent blade edges, reducing overall turbulence.

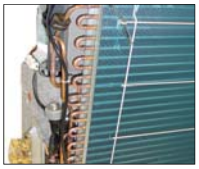
PE Acrylic Resin Fin Coat

	Corrosion Resistance Rating	
	Non-treated	Anticorrosion treated
Salt corrosion	1	5 to 6
Acid rain	1	5 to 6

5 to 6 times the corrosion resistance compared to standard non-coated fins

Galbarium metal base pan for maximum rust and corrosion protection





Daikin Swing Compressor

"Piston" with an integrated roller and blade
➔ Reduced refrigerant leakage & Increased efficiency

Adopted cylinder structure is less susceptible to heat-transfer and deformation.

Rotary

Swing

Single swing for size 9,000-12,000 Btu/hr
Double swing for size 15,000-32,000 Btu/hr

FEATURES	*BENEFITS*
Smooth rotation, little friction Smooth piston motion Few parts rubbing each other	High operation efficiency, energy savings Low vibration, low noise High performance, High reliability

Daikin Swing Compressor

- Large energy savings
- Smooth rotation with little friction and refrigerant gas compression with low loss, allowing high operation efficiency
- Low vibrations and low noise
- High durability
- Fewer moving parts during operation, achieving high performance and reliability

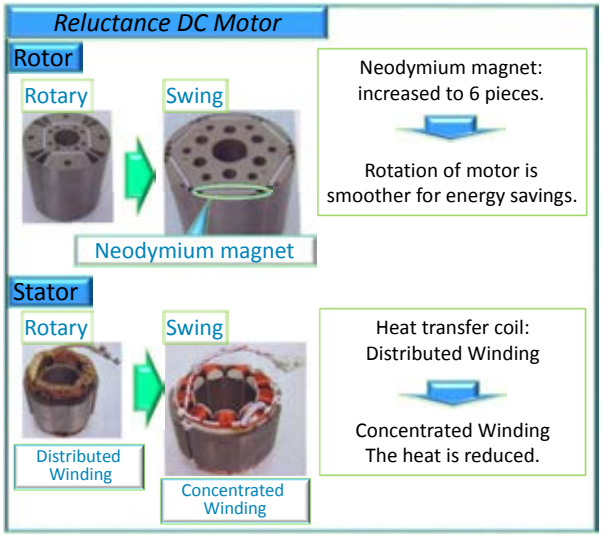
Single or Double Swing

Digitally Commutated Compressor

Digitally Commutated (DC) Motor

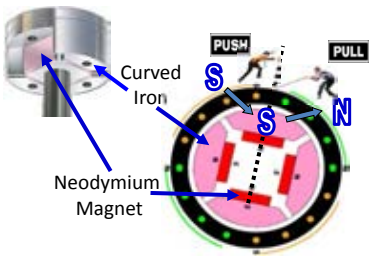
- Neodymium magnet in the rotor – 7 times stronger than ferrite
- Increased power & decreased energy usage

Reluctance DC Motor

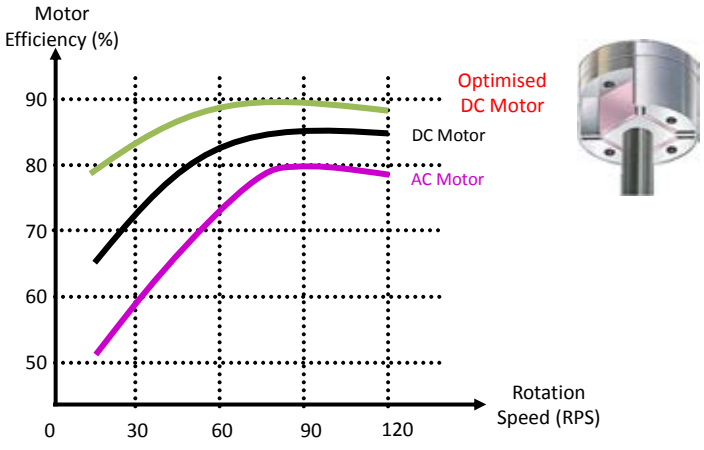


Reluctance DC Motor

- Rotating stator field
  - Electrical field is in the stator not the rotor; no need for brushes
- Based on the principles of a direct current motor
- Uses neodymium magnets
- Benefits from an additional reluctance torque when loaded
- Extreme high performance in low and medium RPM
- At start max. torque for min. current



Reluctance DC Motor



Inverter Technology

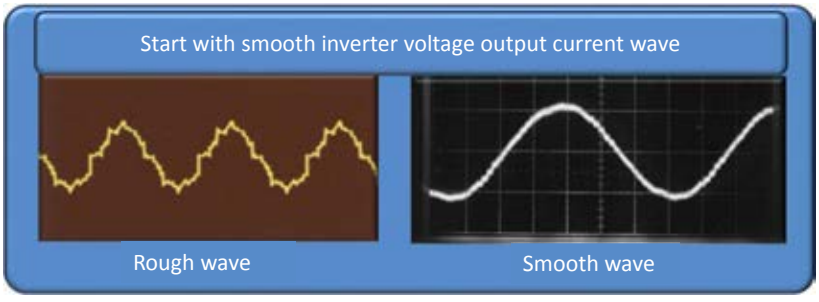
An Inverter is:

- A variable frequency drive that changes the electrical frequency applied to an electric motor [VFD]
- Inverter drive technology is used to vary the HVAC system's operating capacity to match the Heating or Cooling load.
- The inverter drive controls compressor speed like a throttle controls an automobile's engine speed.
- The Inverter varies the applied frequency based on a number of system temperature sensors and the temperature set point.

DC Inverter

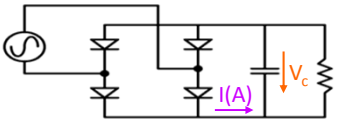
Advantages:

- Smoother motor rotation
- Improved motor efficiency

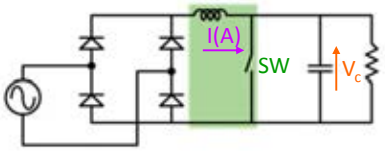


Pulse Amplitude Modulation

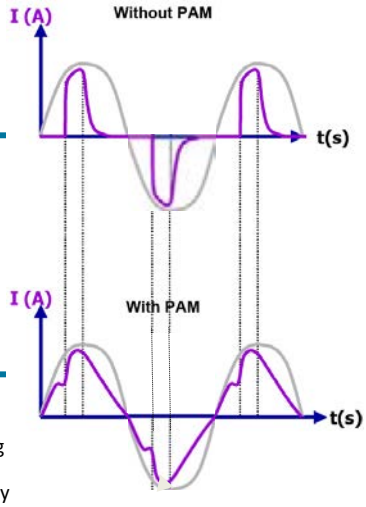
Pulse **A**mplitude **M**odulation



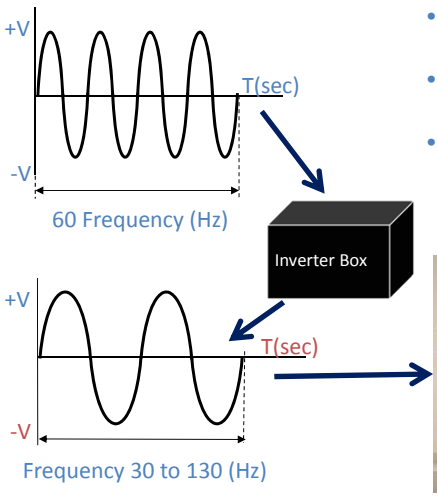
Standard rectifier circuit (without PAM) provides a smooth, steady voltage. However, under peak load conditions, efficiency is lost due to modulation of the current wave.



Daikin rectifier circuit (with PAM) adds a coil and switching contact that cycles at 20 kHz. This creates an improved current wave resulting in 10% higher compressor efficiency than standard inverter systems.

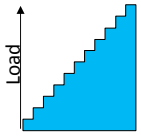


Inverter Drive



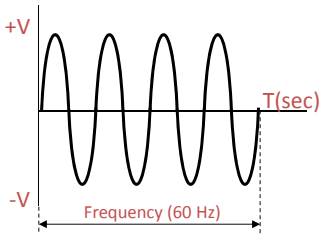
- The *Daikin* inverter control converts the incoming ac voltage to dc voltage
- The inverter then smoothes the sine wave to smooth motor rotation
- Reconverts the dc voltage to 3 phase ac voltage to the compressor
- Frequency applied to the compressor motor to modulate the rotational speed which increases or decreases system capacity

Multi-Step Principle



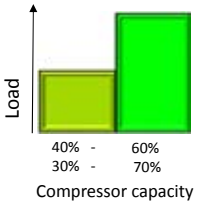
Multiple capacity steps
Applied frequency

Constant Speed Compressor



60 Hz AC input power drives the compressor – single motor
speed
approximately 3,000 +/- RPM

Standard Compressor Options
Single Speed
Two Speed
Two Compressors



Slide 25

Inverter Benefits

- High Efficiency in Part-Load conditions
- Very low startup amperage
- No locked rotor amps
- No stress on windings or compressor frame
- No “light flicker”
- Lubrication of bearings increases before speed increase
- System pressures increase gradually reducing noise and stress on piping
- Quiet compressor startup
- Better Dehumidification
- Fewer start/stop cycles
- As room temperature nears set point capacity is automatically “throttled down”

Slide 26

Additional Inverter Benefits

- Electronic control of the compressor
  - High outdoor ambient temperature
    - Temperature sensors identify high temperature condition
      - Compressor speed is electronically reduced to limit high side pressure and energy usage
  - Reduces energy usage during peak conditions
- Great heating performance
  - Compressor increases speed during cold outdoor ambient conditions
    - Generates higher head pressure, discharge gas temperatures and discharge air temperatures
  - Achieves the same heat output as competitive systems with electric heat strips without using the extra energy

Other Inverter Benefits

- Longer Run Periods at Lower Capacities
- Better Dehumidification
- Fewer compressor starts mean less wear and tear on the compressor = longer life!
- Lower compressor speeds = higher system efficiency
  - Condenser coil surface remains large in relation to reduced capacity
- Higher efficiency = Lower electric bills!

Inverter Benefits

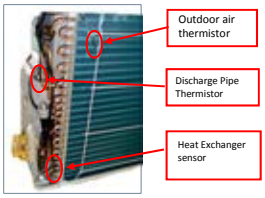
Modulating System

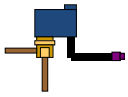
Variable speed compressor provides capacity that is continually adjusted up or down to changing heating or cooling loads. Provides unmatched efficiency and comfort control.

Control system determines difference between the room return air temperature and the mode set-point temperature

Return Air thermistor

Coil discharge thermistor

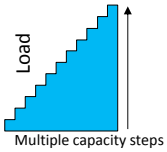




Adjusts the EEV to maintain target Superheat or Subcooling

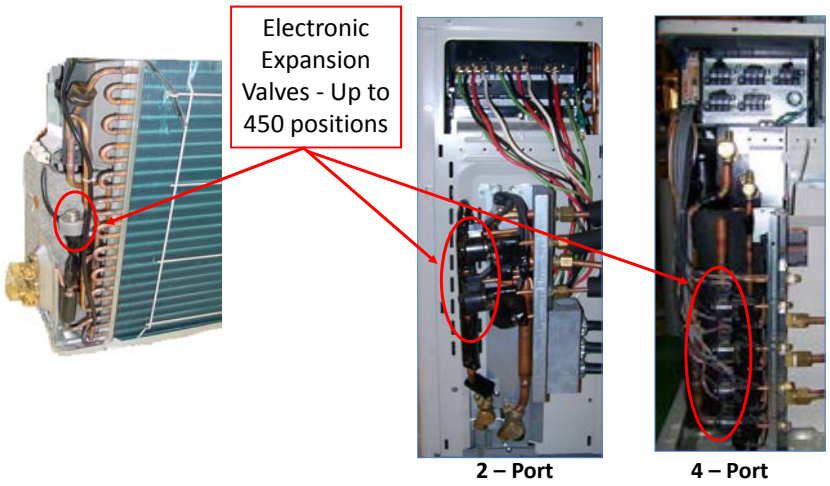
Inverter adjusts compressor speed up or down to match capacity to the load parameters

30 Hz to 130 Hz



Multiple capacity steps
Applied frequency

Electronic Expansion Valves



Inverter compressor with EEVs = Modulating system capacity control for comfort and efficiency

Indoor Units

FTXS & CTXS Wall Mount

FTXS

CTXS

Available Models						
FTXS		FTXS09LVJU*	FTSX12LVJU*	FTXS15LVJU*+	FTXS18LVJU*+	FTXS24LVJU*+
CTXS	CTXS07LVJU+	CTXS09HVJU+	CTXS12HVJU+			

* RXS & RKS Single Split
\+ Multi Split

Wall Mount Units

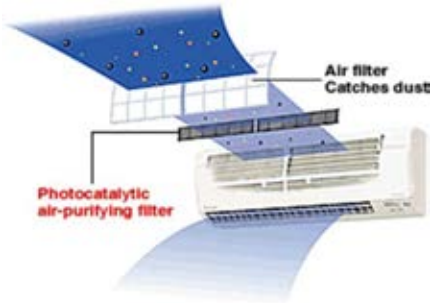
- Very low sound levels
- Auto-swing feature ensures efficient air distribution
- Louvers automatically close when unit is turned off
- Wide air discharge outlet distributes a comfortable airflow through the entire space
- Flexible routing of refrigerant and condensate lines

Wall Mount Units

- Standard (N) & High Efficiency (S) Models
- Auto Fan
- Powered Horizontal Louver
- Indoor Unit Quiet Mode
- DRY Mode
- Econo Mode
- Hand-held Wireless Remote
- Titanium Apatite Photocatalytic Filter

Air Filtration – Wall Mount

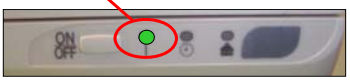
- Air Purifying Filter: This filter traps mildew, mites, and tobacco smoke plus dust and pollen
- Photocatalytic Deodorizing Filter: This filter decomposes odors and even deactivates bacteria and viruses. This ability is maintained simply by washing the Photocatalytic filter and then exposing it to sunlight once every 6 months. (CTXS_H only)



System Malfunction Status

Green Operation LED will flash to indicate system malfunction

CTXS



FTXN/FTXS

Malfunction code displayed and accessed on the Remote Controller

Intelligent Eye

Infrared motion sensor which will sense human movement in the space to initiate setup or setback temperature control for additional energy savings

FTXS

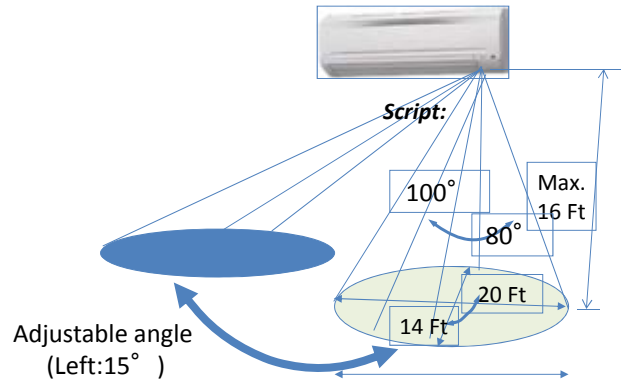
Motion Sensor

CTXS

Intelligent Eye

2 – Position Sensor Adjustment

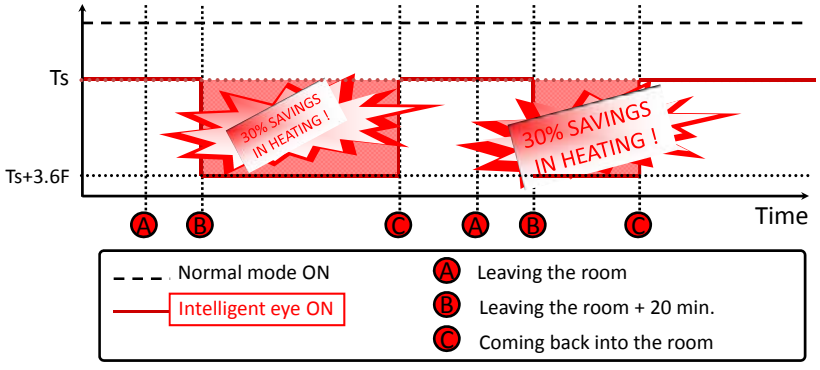
Coverage Area
Adjustable right and left angle



FTXS_LV, CTXS_H, CTXS_LV, FTXS_LV only

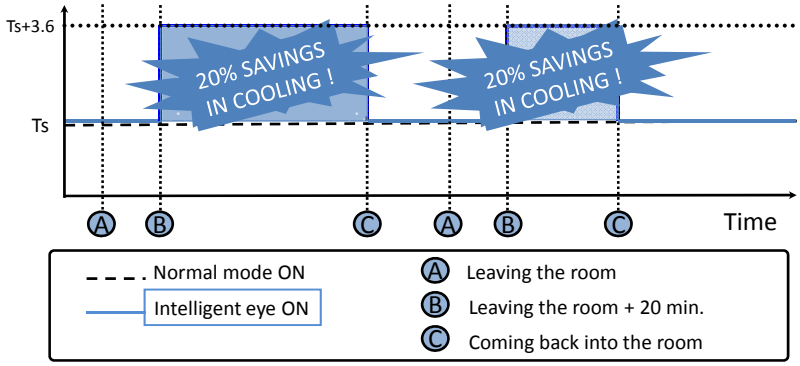
Intelligent Eye

Heating



Intelligent Eye

Cooling



Manual On-Off

- The ON-OFF button provides control if the wireless controller is misplaced or the batteries are depleted.
- The system can be placed in a programmed AUTO mode by pressing the button ON.
- By pressing the button OFF, the system is de-activated and the blower cycles OFF

	Mode	Temp. Setting	Air Flow Rate
Heat Pump	Auto	77°F	Auto

Operation Status

Indoor Unit ON/OFF switch

Operation lamp (green)

Timer lamp (yellow)

- **Signal receiver**
- It receives signals from the remote controller.
- When the unit receives a signal, you will hear a short beep.
- Operation start …….. beep-beep
- Settings changed……beep
- Operation stop…….beeeeep

Quiet Operation

Model	High Speed	Low Speed
FTXS 09-24	40-46 dB	22-37 dB
CTXS 07-09-12	44-45 dB	31-35 dB

5-Speed / Indoor Quiet or AUTO fan operation

Normal conversation = 55 - 60 dB

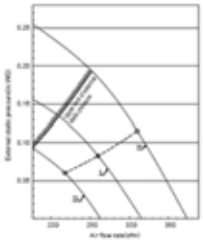
FTXS/CTXS Duct Free Solutions






FDXS & CDXS Slim Duct

- Slim low profile design, only 7 7/8” in height
- Rear (or bottom) return
- Mold proof washable resin filter included
- Wireless Receiver with 5’ cable
  - Optional 10’ and 25’ Plenum rated cable
- Available in 9,000, 12,000, 15,000, 18,000, and 24,000 Btu/h



NOTE: When used on RXS09&12 LVJU units, SEER rating is 15.1

FDXS & CDXS Installations

Hotel & Motel Applications

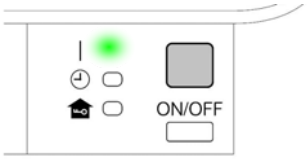
Residential Room Zoning– Single and Multi family

System Fault Indication

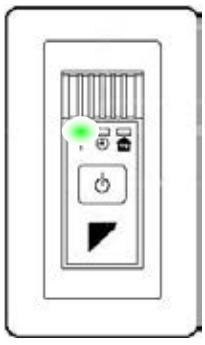
The green operation lamp on the indoor unit's front panel will flash when:

- A protection device in the indoor or outdoor unit activates
- A thermistor malfunctions
- A signal transmission error occurs

CTXS/FTXS09/12LVJU



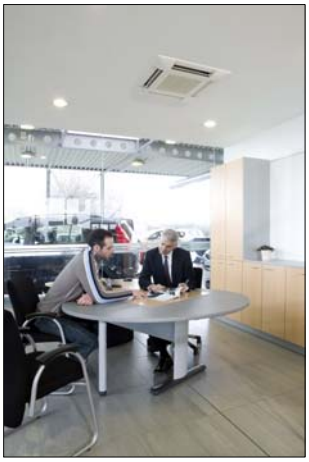
FTXS09 thru 24LVJU



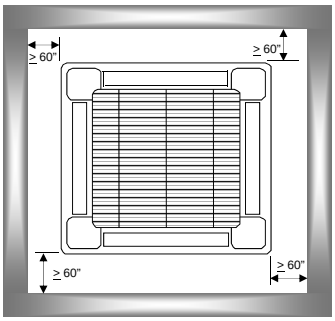
FDXS & CDXS_LVJU

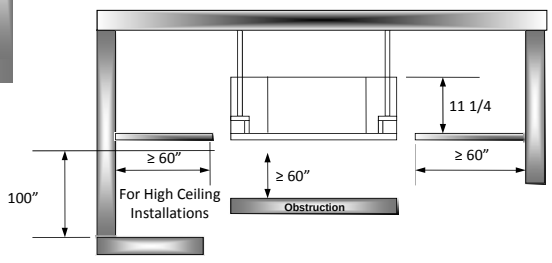
FFQ Ceiling Cassette

- Efficient airflow distribution with vertical auto-swing
- Customizable comfort with 5 freely selected airflow patterns between 0 and 40 degrees
- Comfort without a disturbance with whisper quiet operation
- Draught free operation with horizontal air discharge
- Seamless architectural design with the ability to sit flush into ceilings
- Flexible design with capacity ranges from 9,000 Btu/h to 18,000 Btu/h



FFQ Ceiling Cassette Dimensions





FFQ Installation Examples



Outdoor Units

Outdoor Unit Basic Features

- R-410A
- Inverter driven Compressor & Fan
- Quiet operation
- High Performance & Efficiency
- Single Phase 208/230VAC Power Circuit
- Easy to install
- Self Diagnostics
- Intelligent Digital Control
- Compact Size

Slide 53

Single Split Family Identification

RXN_KE	Standard Efficiency **Heat Pump (18 SEER)**
RKN_KE	Standard Efficiency **Cool only (18 SEER)**
RXS_LV	High Efficiency **Heat Pump (15+ to 24.5 SEER)**

The Single Split system comes in 2 family groups

- The Standard Efficiency **RXN/RKN_KE** Outdoor Units provide efficiency ratings of 18 SEER and 8.5 HSPF
- The High Efficiency **RXS_LV** Outdoor Units provide efficiency ratings from 15 to 24.5 SEER and 10 to 12.3 HSPF

Efficiency based on AHRI 210/240 2008/2009

Slide 54

Single Split Heat Pump & Cool-Only

KE Series
9,000 thru 24,000 Btu/h
HP & Cool Only

LV Series
9,000 thru 24,000 Btu/h

Slide 55

2-Port Multi System

- Max Cooling Capacity – 18,000 Btu/h (Heating 20,000 Btu/h)
- 19.5 SEER (HSPF 9.2)
- Connects to FFQ, CTXS, and FDXS indoor units
- 164 feet total pipe length
- 82 feet max on one leg
- Pre-charged for up to 98.4 feet of liquid line
- Sound Levels - 50 to 51 dBA
- Operating Range
  - Cooling 14° to 115° F
  - Heating 5 ° to 77 ° F
- Tier 2 Energy Star Rated

FFQ
2' x 2' Ceiling Cassette

CTXS
Wall Mount

FDXS
Slim Duct

BRC944
Wired

BRC1E72
Navigation Remote

DACA-TS1-1
Daikin ENVi

ARC452
Wireless

2MXS

Efficiency based on AHRI 210/240 2008

Slide 56

3-Port Multi System

- Nominal Cooling Capacity – 24,000 Btu/h (Heating 30,000 Btu/h)
- 16.6 SEER (HSPF 9.0)
- Connects to FTXS, CTXS, FDXS, CDXS & FFQ indoor units
- 230 feet total pipe length
- 82 feet max on one leg
- Pre-charged for up to 131.6 feet of liquid line
- Sound Levels - 52 to 54 dBA
- Operating Range
  - Cooling 14° to 115° F
  - Heating 5° to 72° F
- Tier 2 Energy Star Rated

FFQ
2' x 2' Ceiling
Cassette

CDXS/FDXS
Slim Duct

FTXS/CTXS
Wall Mount

BRC944
Wired

BRC1E72
Navigation
Remote

DACA-TS1-1
Daikin ENVi

ARC452
Wireless

3MX5

Efficiency based on AHRI 210/240 2008

4-Port Multi System

- Max Cooling Capacity – 32,600 Btu/h (Heating 34,000 Btu/h)
- 17.6 SEER (HSPF 9.3)
- Connects to FTXS, CTXS, FDXS, CDXS & FFQ indoor units
- 230 feet total pipe length
- 82 feet max on one leg
- 49.2 feet vertical separation
- Pre-charged for up to 131.6 feet of liquid line
- Sound Levels - 52 to 54 dBA
- Operating Range
  - Cooling 14° to 115° F
  - Heating 5 ° to 72° F

FFQ
2' x 2' Ceiling
Cassette

CDXS/FDXS
Slim Duct

FTXS/CTXS
Wall Mount

BRC944
Wired

BRC1E72
Navigation
Remote

DACA-TS1-1
Daikin ENVi

ARC452
Wireless

3MX5

Efficiency based on AHRI 210/240 2008

Controls

Remote Controllers

Provided with Ducted & Wall Mount

BRC7E830/BRC4C82 Option

BRC944B2 Wired (Option)

Daikin ENVi DACA-TS1-1 (Option)

BRC1E72 Nav Remote (Option)

Note: BRC7E830/BRC4C82 and BRC1E72 remote options are available for FFQ Only, must be purchased separately

Wireless Remote

Fan Speed Select

Powerful Mode
Max Cool or Heat

Mode Select
AUTO-DRY-COOL-HEAT-FAN

Outdoor Quiet Mode

Intelligent Eye Mode

Timer OFF

Cancel

Timer Select

Backlit LCD Display

System On / Off

Set-Point Temp Up/Down

Vertical Louver Button

Horizontal Louver Button

Timer ON

Standard Remote Controller for all Mini Split Wall Mount Indoor Units

Factory Supplied R/C

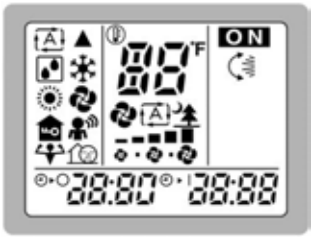
ARC452A21:	**CTXS07LVJU**
	FTXS09LVJU
	FTXS12LVJU
	FTXS15LVJU
	FTXS18LVJU
	FTXS24LVJU
ARC452A9:	**CTXS09HVJU**
	CTXS12HVJU

Slide 61

Remote Controller Icons

: AUTO
: DRY
: COOL
: HEAT
: FAN

"" ""

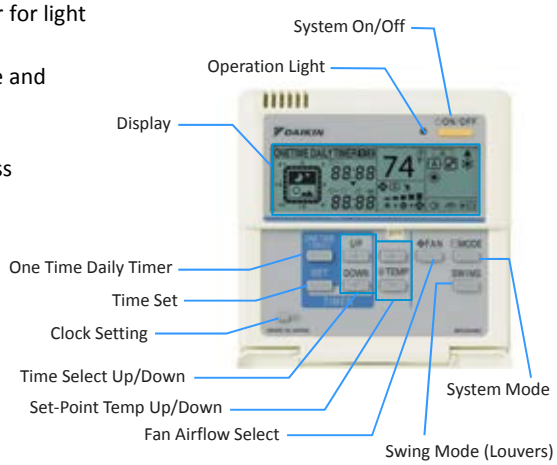


If function is active the icon will appear on screen

Slide 62

Optional BRC944B2 Wired

- This controller provides the option of a wall mounted controller for light commercial applications
- For use with all *Daikin* Single and Multi models*
- Controller can be used in conjunction with the wireless remote controller
- Controller Features
  - Start/Stop
  - Operation Mode
  - Temperature Setting (18-32°, 64-90°F)
  - One Time/Daily Timer
  - Fahrenheit or Celsius Temperature Display
  - Fan Speed
  - Airflow Direction



*Not Available for FFQ Indoor Unit

Daikin ENVi DACA-TS1-1

The Daikin ENVi thermostat kit includes:

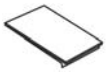

ENVi Thermostat


Trim Plate


DPCA with Power Cable

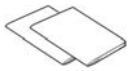

Wiring Harness

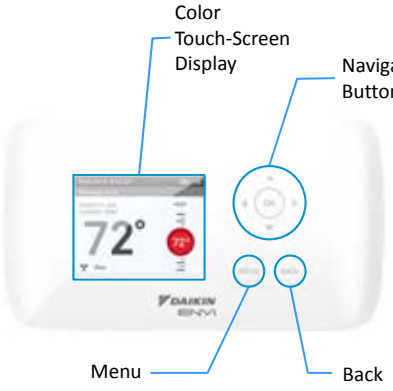

Screws (4) and Drywall Anchors (4)


Double-Sided Adhesive


Wire Ties (2)


Serial Number Sticker

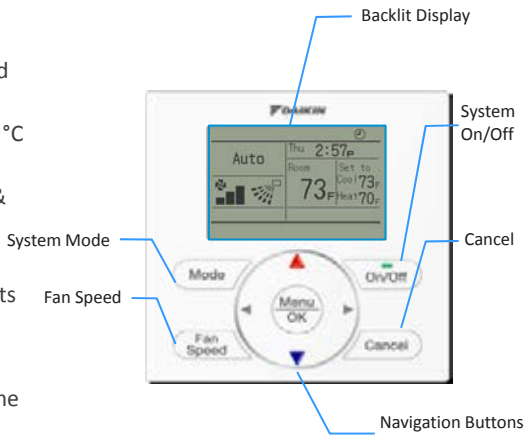

Installation and User Manuals



Not Available for FFQ Indoor Unit

BRC1E72 Navigation Remote

- Large Backlit LCD Display
- Display configurable to Detailed, Standard, and Simple
- Room temperature display – Day and Time
- Selectable display languages & °F or °C Temp
- Automatic Changeover Heat Pump & Heat Recovery
- Weekly Schedule
- Dual and Single Cool & Heat setpoints
- Independent Setback setpoints
- Selectable 12/24 hour clock display
- Auto-adjustable Daylight Savings Time (DST)
- Max. 16 connectable indoor units
- Optional Face Decals to hide unnecessary or locked out buttons



Accessories

Controls Adapter KRP928B

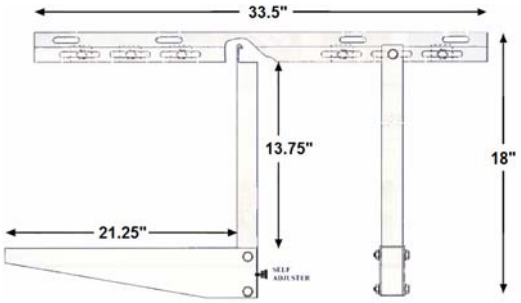
- Simple installation to interface RA 4-wire communication to VRV D-III Net 2-wire F1 F2
- Use for server rooms, portable buildings, additions, instances where you have an existing D-III Net control system and you want spot cooling (cooling one place)

F1 F2 Out Circuit

KRP928B

Intelligent Touch Controller

Wall Mounting Bracket Kit



Wall Mounting Bracket Kit
DACA-WB-3

Useful for floor-by-floor installations in multi-floor applications.

500 lb. (max. load)

Outdoor Unit Accessories

	Outdoor Unit	Type
KPW038A4	RKN09/12KEVJU RXS09/12KEVJU	Air adjustment grill & Wind baffle
KPW937A4	RXS09/12LVJU	Air adjustment grill & Wind baffle
KPW937C4	RKN15/18/24KEVJU RXN15/18/24KEVJU RXS09/12LVJU	Air adjustment grill & Wind baffle
KPW945A4	RXS15/18/24LVJU	Air adjustment grill & Wind baffle
KPW945A4	2/3/4MXS	Air adjustment grill only, NOT Wind baffle

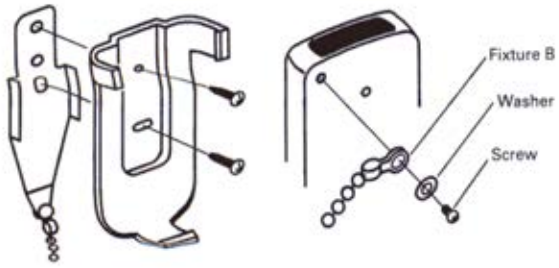
Wind baffle kits direct discharge air and provide some protection from hail damage.

Condensate Pump Accessories

DACA-CP1-1

KKF917A4 Mounting Hardware

Anti-theft chain for wireless remote controller. Kit includes bracket, chain and screw



KKF917A4

Line Set Duct

Line Set ducting is a cosmetic line-set beautification system

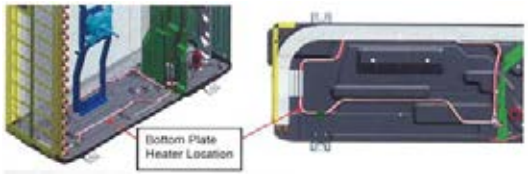
- Used to conceal line-sets, drain lines and electrical connections
- Benefits:
  - Many different sizes and fitting types are available to fit almost any application
  - Easy to install and a great way to finish out a project
  - Can also be used for non-HVAC applications

Bottom Plate Heater Kit Accessory

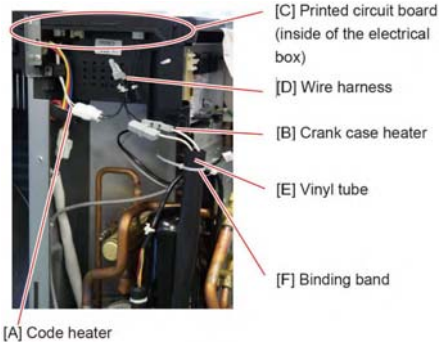
Bottom Plate Heater Kits offer an option for extraordinary applications where a large number of heating operating hours are seen between 17°F and 32°F coupled with large amounts of snowfall.

Bottom Plate \ Applicable Outdoor Unit	RXS09LVJU	RXS12LVJU	RXS15LVJU	RXS18LVJU	RXS24LVJU	RXS30LVJU	RXS36LVJU	RXG09HVJU	RXG12HVJU	RXG15HVJU	RXS09JEVJU	RXS12JEVJU	RXS09DAVJU	RXS12DAVJU	RXS15DVJU	RXS18DVJU	RXS24DVJU	RXS30HVJU	RXS36HVJU	RXN09KEVJU	RXN12KEVJU	RXN09JEVJU	RXN12JEVJU	RXN15KEVJU	RXN18KEVJU	RXN24KEVJU	RXS09DVJU	RXS12DVJU	2MXS18GVJU	3MXS24JVJU	4MXS32GVJU
KEH041A41	■	■	X	X	X	X	X	X	X	X	X	X	■	■	X	X	X	X	X	X	X	X	X	X	X	X	■	■	X	X	X
KEH041A42	X	X	■	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KEH041A43	X	X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	■
KEH041A44	X	X	X	X	X	■	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KEH041A45	X	X	X	X	X	X	X	■	■	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KEH041A46	X	X	X	X	X	X	X	X	X	X	■	■	X	X	X	X	X	X	X	■	■	■	■	X	X	X	X	X	X	X	X	X
KEH041A47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	■	■	X	X	X	X	X	X
KEH041A48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	■	■	X	X	X	X	X	X	X	X	X	X	X	■	X	X	X
KEH041A49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Note ■ = Approved Combination of Bottom Plate Heater with Outdoor Unit



SkyAir Ultra Low Ambient Cooling Kit



-40°C/°F ultra low ambient

Kit contents: code heater, crank case heater, PCB, wire harness, vinyl tube, and binding band

Requires: Optional outdoor unit wind baffle, KPW5E112, sold separately

Kit Model	Outdoor Unit	Indoor Unit	Tons
2F018535-1	RKS30LVJU	FTXS30LVJU	2.5
2F018535-2	RKS36LVJU	FTXS36LVJU	3.0

Topics

- Product Line Up
- Technology
- Indoor Units
- Outdoor Units
- Controls
- Options

DAIKIN

COMFORT FOR LIFE

Thank You

PT-RLC-1212-PP0-01C

Installation & Start-Up

Single-Split & Multi-Split
Single Phase Four Wire Systems

Topics

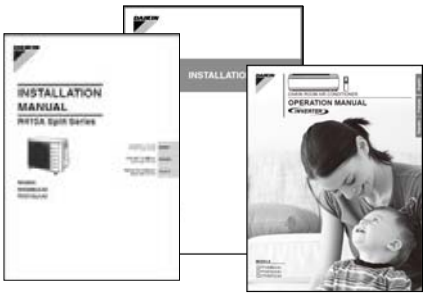
- Installation considerations
- Outdoor Unit Site Requirements
- Indoor Unit Site Requirements
- Piping
- Electrical Wiring
- Condensate Accessory Installation
- Controls
- Field Settings
- Start Up
- Troubleshooting
- Accessories

Installation Considerations

Tools & Support

Daikin eQuip App

Product Catalog



Installation, Operation, & Service Manuals

Slide 5

Daikin Tools for Install

Slide 6

Additional Tools for Install

- Metric tools (hex key set and socket set) are required when installing or servicing Daikin RLC units
- Nitrogen regulator capable of measuring up to 700 plus PSI is necessary for installing Daikin RLC units

Metric Hex Key Set

750 – 1000 PSI

Metric Socket Set

PolyVinylEther Oil (PVE)

- Compatible with all HFC Refrigerants
- Excellent anti-wear properties
- Better solubility with process fluids
- Superior Resistance to Cap tube blockage
- Better lubricity
- Optimal for non-drier systems
- Very Hygroscopic but with no hydrolysis
- Moisture easily removed

PVE w/ drier

PVE w/o drier

Installation Features

- The Mini Split systems use small diameter copper tubing reducing time and cost in installation
- Reduced installation space – Can be installed on optional wall brackets above ground level
- KE series units come pre-charged with R-410A for up to 33 ft. Add .22oz/ft thereafter*

* RXS_LV - .21 oz per foot
RXG – No additional charge allowed

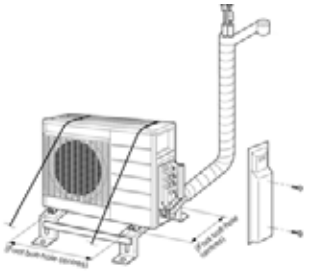
Multi Split Installation

- **Label the indoor units A, B, C & D as appropriate**
  - Daikin does not have preference regarding install order
  - Important for wiring and piping
- **Piping and wiring must match**
  - If the system is piped A, B, & C then it MUST be wired A to A, B to B, and C to C

Outdoor Unit Site Requirements

Installation Site Requirements

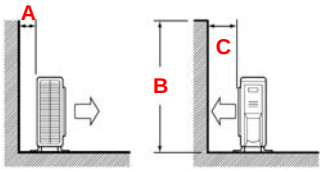
- Choose a location capable of supporting the weight of the unit
- Choose a location where the air discharge will not interfere with other systems or people
- Avoid noise sensitive locations
- Ensure there is sufficient service space around the unit
- Ensure the unit is installed at least 10 feet away from any television or radio
- Do not install moisture sensitive equipment under the unit



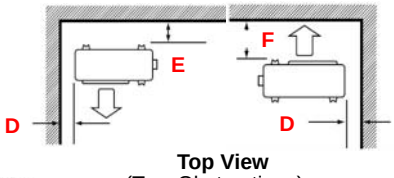
Installation Site Requirements

- Do not install unit by hanging from a ceiling or overhead
- Do not stack units directly on top of one another, use mounting brackets
- When installing the system in cold environments
  - Install the unit with its suction side facing a wall
  - Install a baffle plate on the discharge side of the unit
  - In heavy snowfall areas, select a site where snowfall, snow buildup and drifting will not affect the unit
  - The outdoor unit can also be wall mounted
  - Use optional condensing unit mounting brackets.

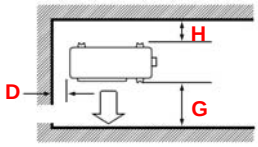
Outdoor Unit Clearances



Side View
(Single Obstruction)



Top View
(Two Obstructions)



Top View
(Three Obstructions)

MODEL	A	B	C	D	E	F	G	H
RXS09/12LVJU	>1 5/16	>47 3/16	>3 15/16	>1 15/16	>3 15/16	>5 7/8	>11 13/16	>5 7/8
RXS15/18/24LVJU	>3 15/16	>47 3/16	>13 3/4	>1 15/16	>3 15/16	>13 3/4	>13 3/4	>3 15/16
RXG/FTXG	>1 5/16	>47 3/16	>3 15/16	>1 15/16	>3 15/16	>5 7/8	>11 13/16	>5 7/8
2MXS18GVJU	>3 15/16	>47 3/16	>13 3/4	>1 15/16	>3 15/16	>13 3/4	>13 3/4	>3 15/16
3 & 4MXS32GVJU	>3 15/16	>47 3/16	>13 3/4	>1 15/16	>3 15/16	>13 3/4	>13 3/4	>3 15/16

Unit of Measurement = Inches

Seismic Certification – Outdoor Units

Daikin has obtained OSHPD (Seismic) Certification for certain outdoor units. Certification requires **field supplied and installed** enhancements.

- RXG09_VJU
- RXG12_VJU
- RXG15_VJU

- RXS09_VJU
- RXS12_VJU
- RXS15_VJU
- RXS18_VJU
- RXS24_VJU
- RXS30_VJU
- RXS36_VJU

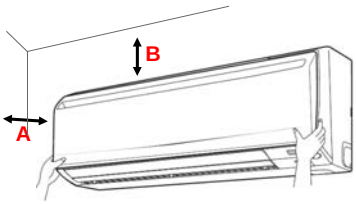
- RKS30_VJU
- RKS36_VJU

OSP label (sample shown below) must be affixed on to each certified model right next to the equipment nameplate. This label is available from the Daikin VRV and Ductless Product Marketing Group.

Indoor Unit Site Requirements

Wall Mount Unit Installation

- Ensure the unit is not exposed to direct sunlight.
- Ensure the unit is not exposed to direct heat or steam.
- Airflow should circulate throughout the room.
- Ensure both air intake and outlet paths are unobstructed.
- Ensure the unit is mounted away from fluorescent lamps.
- Ensure the unit is mounted at least 3 ½ feet away from any television or radio.
- Ensure the unit is not exposed to machine oil vapors.



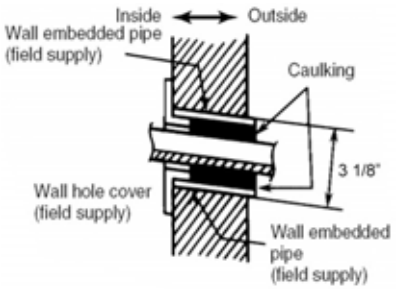
A	B
≥1 15/16	≥3

Recommended Service Clearance
Unit = Inches

Wall Mounting Plate

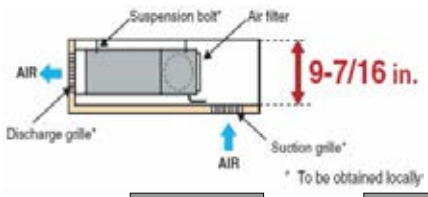
Wall Mounting Plate

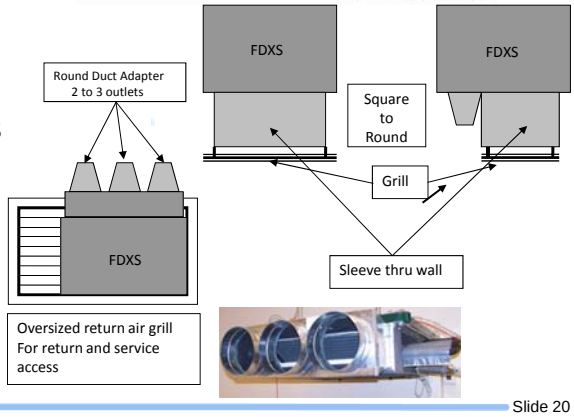
Wall Penetration



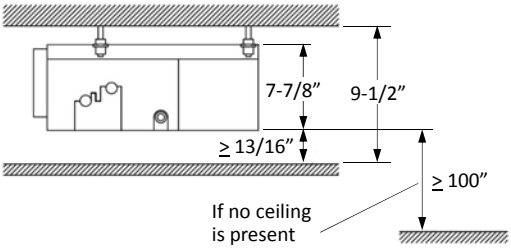
Slim Duct Indoor Unit

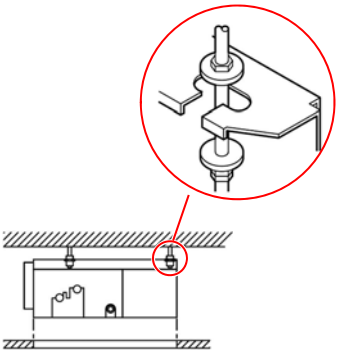
- Rear or bottom return
- Requires less than 12" of height clearance
- Install in fur-down/soffit or attic space
- Apply field supplied round or rect. adapters
- Flexible application for Ducted or Duct-Free installations

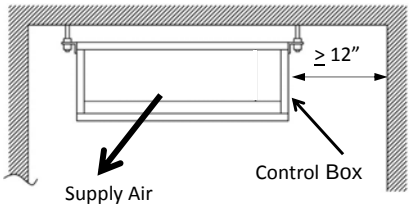




Slim Duct Installation







Available External Static Pressure from 0.04” to 0.12” wg.

Slim Duct Installation

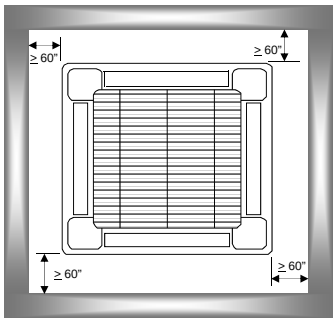
Custom ducted applications for rectangular or round duct

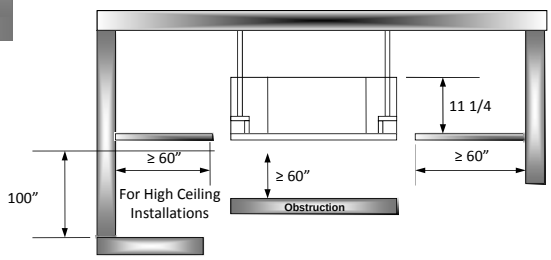
FDXS ESP - .12” WG
CDXS ESP - .16” WG

For minimal ducted applications up to 15ft maximum lengths

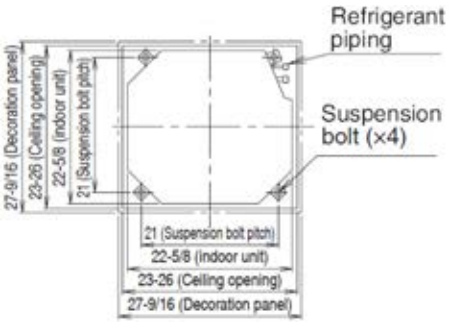
NOTE: For attic installations, entire fan coil cabinet must be wrapped with minimum of 1/2” insulation

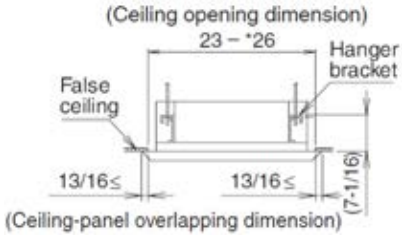
FFQ Ceiling Cassette

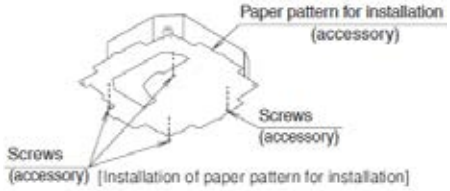




FFQ Dimensions



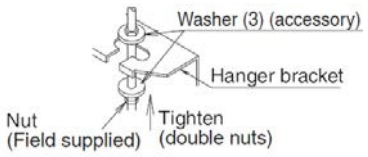




FFQ Suspension

- Use suspension bolts for installation. Check whether the ceiling is strong enough to support the weight of the unit or not. If there is a risk, reinforce the ceiling before installing the unit.

- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket. The washer fixing plate (7) will prevent the washer from falling.

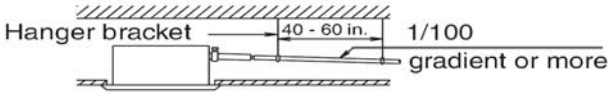


[Securing the hanger bracket]

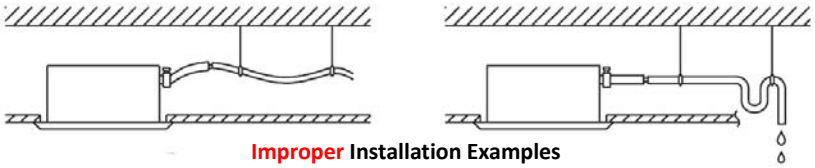
[Securing the washer]

FFQ Drain Installation

- Max. drain riser height: 33 1/2”
- Flexible, insulated drain coupling is included
- Max. riser pipe diameter from coil outlet: ¾” ID
  - Larger diameter pipe may generate an “AF” code
- Never connect drain piping to sewer vent

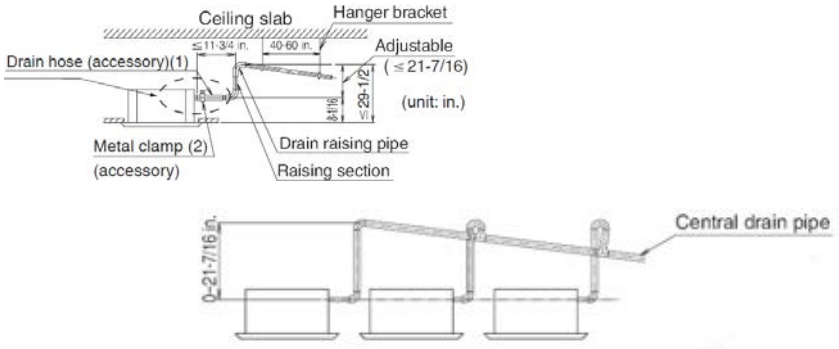


Proper Installation Example

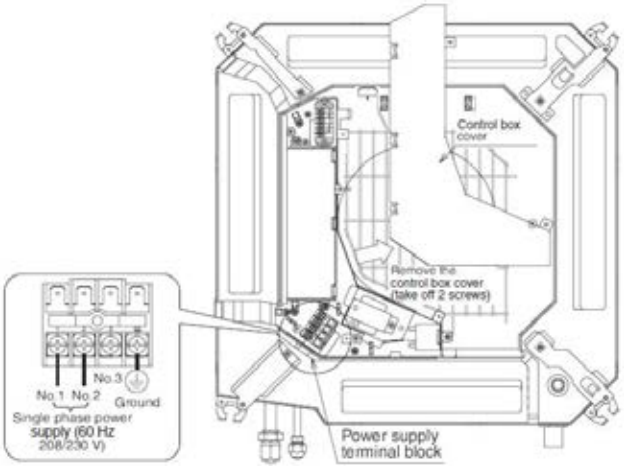

Improper Installation Examples

FFQ Drain Installation

- Install the drain raising pipes at a height of less than 21 7/16
- Install the drain raising pipes at a right angle to the indoor unit and no more than 11 3/4 from the unit.
- The drain pipe should have a downward slope of at least 1/100 to prevent air pockets from forming
- Water accumulating in the drain piping can cause the drain to clog

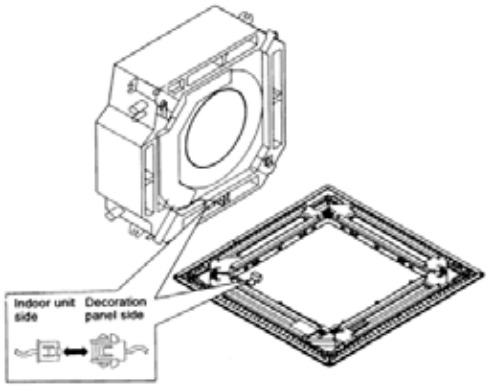


FFQ Electrical Installation



FFQ Decoration Panel Installation

Make sure that the swing flap motor lead wire is not caught between the indoor unit and the decoration panel



FFQ Decoration Panel Installation

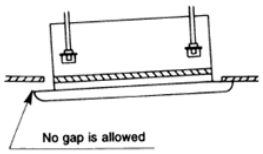

Mounting loop

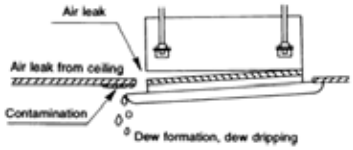

Mounting tab

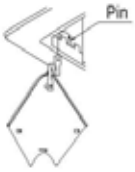

Adjustment Screw

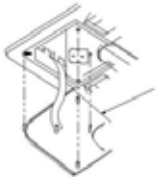
FFQ Decoration Panel Installation

If a gap exists between the ceiling and the decoration panel after screwing in the screws, readjust the indoor unit body height to close gap.









FFQ Decoration Panel Installation

- Install 2 of the 4 supplied mounting screws into the designated fan coil mounting straps
- Install the elongated mounting holes of the decoration panel onto these 2 screws to hold panel in place
- Rotate the swivel support finger on the panel over the tab on the electrical enclosure to support panel
- Install remaining 2 screws and secure all 4

Seismic Certification – Indoor Units

Daikin has obtained OSHPD (Seismic) Certification for certain indoor units. Certification requires **field supplied and installed** enhancements.

- FTXG09HVJU
- FTXG12HVJU
- FTXG15HVJU

- FTXS09_VJU
- FTXS12_VJU
- FTXS15_VJU
- FTXS18_VJU
- FTXS24_VJU

- FTXN15_VJU
- FTXN18_VJU
- FTXN24_VJU

OSP label (sample shown below) must be affixed on to each certified model right next to the equipment nameplate. This label is available from the Daikin VRV and Ductless Product Marketing Group.


DAIKIN AC
oshpd
CERTIFICATE OF COMPLIANCE
SEISMIC CERTIFICATION LABEL
CALIFORNIA BUILDING CODE
OSHPD Special Seismic Certification Preapproval: OSP-029*-10

Refrigerant Piping Considerations

Mini Split Line Sets

- Daikin does not recommend that you install
  - Driers
  - Solenoids
  - Sight Glasses
  - Oil Traps
  - These components are not necessary for the Daikin RLC products to work efficiently.
- Only install these components if your specific application requires them.
- Always insulate both lines separately.

Single Split Pipe Sizes

The piping line sizes apply to both high and standard efficiency systems whether using the ducted or wall mounted indoor unit.

Model #	Gas Line	Liquid Line
RXN & RKN_KEVJU 9,000 & 12,000	3/8”	1/4”
RXN & RKN_KEVJU 15,000, 18,000 & 24,000	1/2”	1/4”
RXS_LVJU 9,000 & 12,000	3/8”	1/4”
RXS_LVJU 15,000 & 18,000	1/2”	1/4”
RXS_LVJU 24,000	5/8”	1/4”
RXG_HVJU 9,000, 12,000 & 15,000	3/8”	1/4"

- Flare connections at indoor and outdoor units
- System can be installed with no brazing!
- Small diameter piping means easier installation
- Insulate each line separately!

Multi Split Pipe Sizes

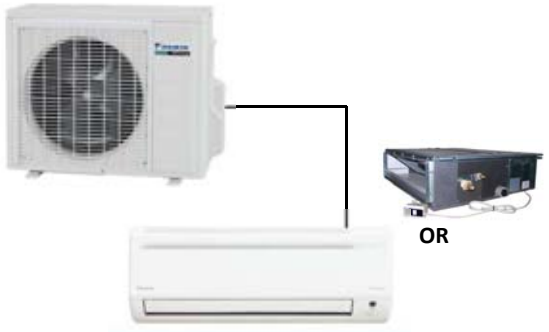
The piping line sizes apply whether using the ducted or wall mounted indoor unit.

Model #	Gas Line	Liquid Line
2MXS18GVJU	3/8"	1/4"
3MXS24GVJU	3/8" 1/2" 5/8"	1/4"
4MXS32GVJU	3/8" 1/2" 5/8"	1/4"

- Flare connections at indoor and outdoor units
- Line size adaptors included
- System can be installed with no brazing!
- Small diameter piping means easier installation
- Insulate each line separately!

Piping Limitations Single Split 9,000 & 12,000 Btu/h

- Total allowable line set length cannot exceed 66 feet. 33 feet for RXG.
- Maximum height difference between indoor and outdoor unit cannot exceed 49 feet. 26 feet for RXG.
- Total allowable line set length cannot be less than 5 feet.



Maximum Height difference between outdoor and indoor unit = 49 Ft. (26 Ft. for RXG)

This Rule applies if outdoor unit is above OR below indoor fan coil unit.

Piping Limitations Single Split 15,000 –24,000 Btu/h

- Total allowable line set length cannot exceed 98 feet. 33 feet for RXG.
- Maximum height difference between indoor and outdoor unit cannot exceed 66 feet. 26 feet for RXG.
- Total allowable line set length cannot be less than 5 feet.

Maximum Height difference between outdoor and indoor unit = 66 Ft. (26 Ft. for RXG)

This Rule applies if outdoor unit is above OR below indoor fan coil unit.

Piping Limitations – 2 Port Multi

- Total maximum pipe length (all rooms) = 164 feet.
- Maximum pipe length to each fan coil (room) = 82 feet.
  - Only 3/8 and 1/4 pipe required to each indoor unit.

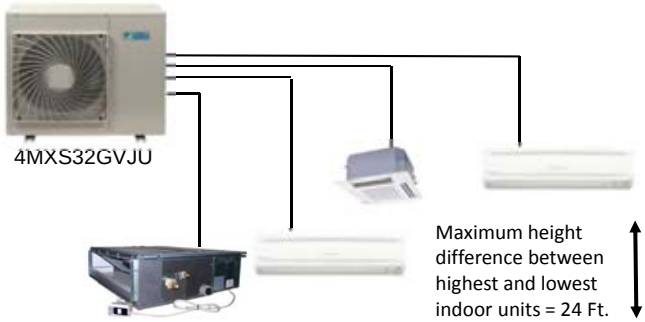
Maximum Height difference between indoor units =24 Ft.

Maximum Height difference between outdoor and lowest indoor unit = 50 Ft.

This Rule applies if outdoor unit is above OR below indoor fan coil units.

Piping Limitations – 3 & 4 Port

- **Total maximum pipe length (all rooms) = 230 feet.**
- **Maximum pipe length to each fan coil (room) = 82 feet.**
  - Only 3/8" and ¼" pipe required to each indoor unit (9,000-12,000 Btu/h)
  - Only ½" and ¼" pipe required to each indoor unit (15,000-18,000 Btu/h)



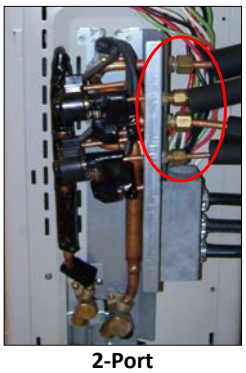
Maximum Height difference between outdoor and lowest indoor unit = 50 Ft.

Maximum height difference between highest and lowest indoor units = 24 Ft.

This Rule applies if outdoor unit is above OR below indoor units.

Service Connections

- 2-Port Multi is labeled A & B on the Outdoor unit at the service connections
- 3-Port Multi is labeled A, B, & C on the Outdoor unit at the service connections
- 4-Port Multi is labeled A, B, C, & D on the Outdoor unit at the service connections
- Ports are different sizes and should be connected based on the model and size of the indoor unit

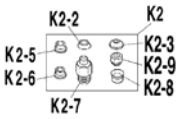


2-Port

4-Port

Service Connection Adaptors

- Line size adapters are included with outdoor unit.
- Additional adapter kits are available from the Daikin Spare Parts Bank.



Line Size Adapter Table

Port	3MXS24=	4MXS32=	Reducer numbers
A	07 , 09 , 12	07 , 09 , 12	———
B	(07) (09) (12) 15 , 18	(07) (09) (12) 15 , 18	○ 07, 09 & 12 Use No. 2 & 4 reducers
C	(07) (09) (12) (15) (18)	(07) (09) (12) (15) (18)	○ 07, 09 & 12 Use No. 5 & 6 reducers 15 & 18 Use No. 1 & 3 reducers
D	———	(07) (09) (12) (15) (18)	○ 07, 09 & 12 Use No. 5 & 6 reducers 15 & 18 Use No. 1 & 3 reducers

3MXS24JVJU
PL-1002-13

Daikin Spare Parts Bank Part # Table

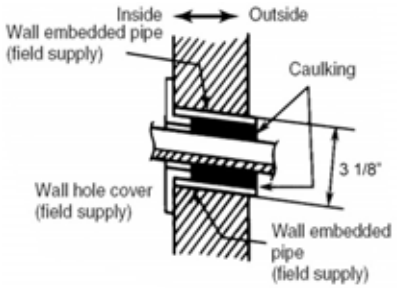
No.	Index	Parts No.	Repair Info.	Parts Name	Drawing No.	Specification	Q'ty
K2				REDUCER ASSY.	3P174848-3		1
K2-2	C	257553		GASKET/ REDUCING JOINT	R4694883-3	D15.9-D12.7	1
K2-3	C	257712		GASKET/ REDUCING JOINT	R4694883-4	3/8B-1/2B (D9.5-D1	1
K2-5	C	257555		GASKET/ REDUCING JOINT	R4694884-7	D15.9-12.7	1
K2-6	C	257709		GASKET/ REDUCING JOINT	R4694884-8	D12.7-D9.5	1
K2-7		257503		REDUCING JOINT	NI42051-9	AFF3-5 3/8B-5/8B (	1
K2-8		257511		FLARE GASKET	NI43051-4	5/8B	1
K2-9		1198481		FLARE NUT	4SK23012-3	FNS3 3/8B D9.5CU	1

Refrigerant Piping Installation

Feeding refrigerant pipe through exterior wall

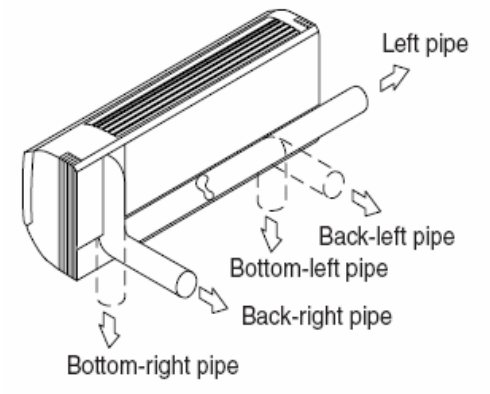
- For walls containing metal frame or siding, use field supplied conduit or grommet to prevent heat transfer, electrical shock or fire.
- Fill all gaps around the refrigerant pipes with caulking, putty or spray foam to prevent water leaks.
- Refrigerant piping and condensate piping can be run together through wall.

1. Bore a 3 1/8" diameter hole through the wall sloping toward the exterior.
2. Insert wall pipe (feed tube) into the hole.
3. Insert wall hole cover into the wall pipe.
4. After completing refrigerant piping, wiring and drain piping, fill all gaps and spaces with caulk or putty.



Refrigerant Piping Installation

Refrigerant piping can be routed from the back of the unit in any one of 5 directions.



Pressure Test

Nitrogen Pressure Testing Considerations

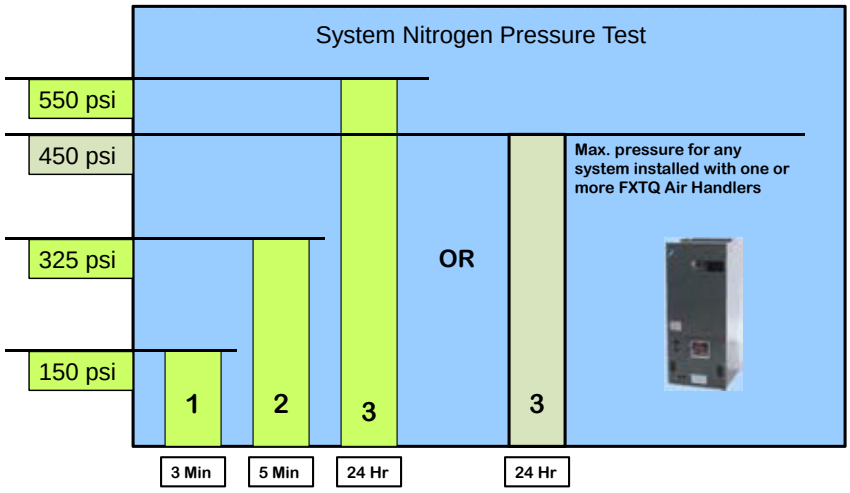
Since Nitrogen is subject to expansion and contraction due to ambient temperatures, we must use a formula to compensate for temperature changes from one day to the next when performing the 24 hour pressure test. The following formula will help you do this.

Take the temperature when the system is pressurized (Tp) and subtract the temperature when the pressure is checked (Tc) then multiply by a factor of 0.80 to get the pressure drop (PD).

$$(Tp – Tc) \times 0.80 = PD$$

Pressure Test

If Stop Valves are not tightened down prior to pressure test Nitrogen may leak back through into condenser and contaminate refrigerant.



Evacuation

Daikin AC Recommends – Triple Evacuation

Evacuate the system to 4000 microns.

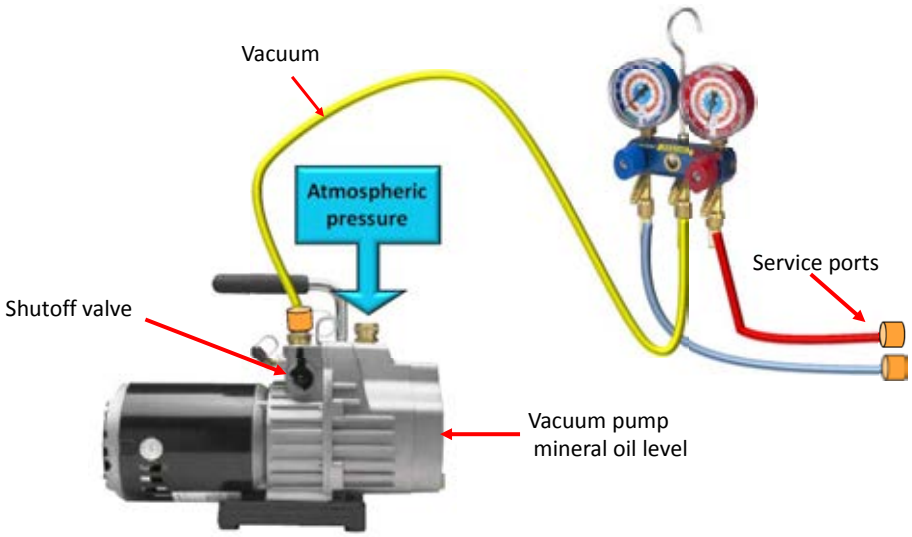
Break vacuum with dry nitrogen to pressure of 2-3 PSIG, hold for 15 minutes.

Evacuate to 1500 microns & maintain for 20 minutes.

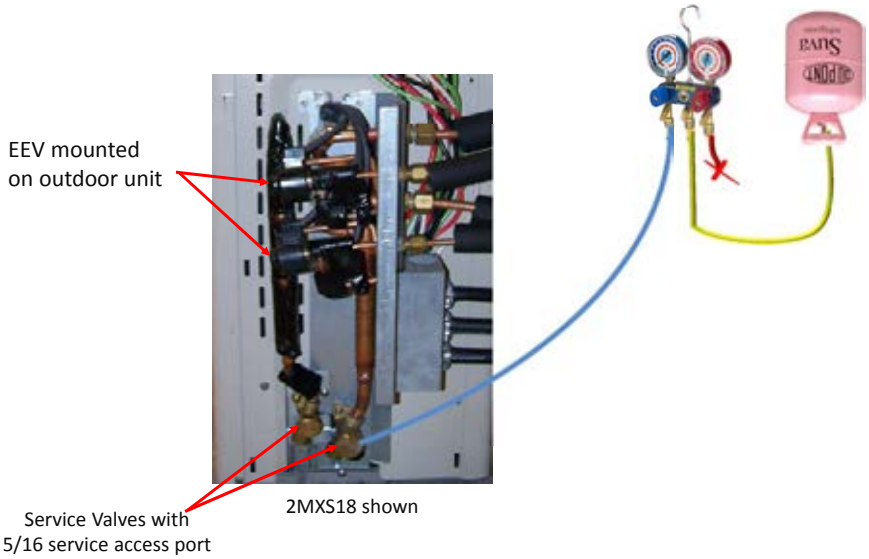
Break vacuum with dry nitrogen to pressure of 2-3 PSIG, hold for 15 minutes.

Evacuate to below 500 microns and hold for 60 minutes.

Evacuation



Charging



Line Set Charging

- The best time to add refrigerant charge is immediately after evacuation is complete
- Close vacuum pump valve first, then close manifold gauges
- R-410A must be charged as a liquid and weighed in
  - RXS_LV additional charge = .21 per foot
  - RXG no additional charge allowed
  - All others, see table below

RXN/RKN_KE	Factory Charge	If line Set Exceeds 33 Feet Add
9,000 Btu	1lb. 12 oz	.22 oz per foot
12,000 Btu	2lb. 3.2 oz	.22 oz per foot
15,000 Btu	3lb. 12 oz	.22 oz per foot
18,000 Btu	3lb. 12 oz	.22 oz per foot
24,000 BTU	3lb. 12 oz	.22 oz per foot

Outdoor Unit Model No.	Factory Charge	If line Set Exceeds 98 Feet Add
2MXS18GVJU	5lb. 12 oz	.22 oz per foot

Outdoor Unit Model No.	Factory Charge	If line Set Exceeds 131.5 Feet Add
3MXS24 & 4MXS32GVJU	6lb. 13 oz	.22 oz per foot

Electrical Wiring Considerations

Single and Multi Split Wiring

- Cable for Outdoor unit wiring - 15 or 20 amp 208/230 dedicated circuit
  - 12 – 14 AWG solid core copper wire as per local codes
  - Only a single 208/230 VAC 15 or 20 amp circuit is required, which will power both indoor and outdoor units
- Cable specification for inter unit wiring
  - 4-conductor, **Stranded**, 240 VAC weather-proof cable
  - There must be no splices on the #3 or Ground wire

Inter Unit Connecting Cable

Always follow local codes

For Multi Splits, wiring order should always match piping order. Ex: When piping Connection A to FDXS12, make sure that the inter unit wiring terminal A is also used to connect to the FDXS12. If not, a communication error code will result on start-up

Single-Split Wiring

POWER SUPPLY 1Ph
208/230 Volts

L1 L2 ⏚

1 = LINE

2 = LINE

3 = COMM – 12- 45vdc

⏚ = Ground

1
2
3
⏚

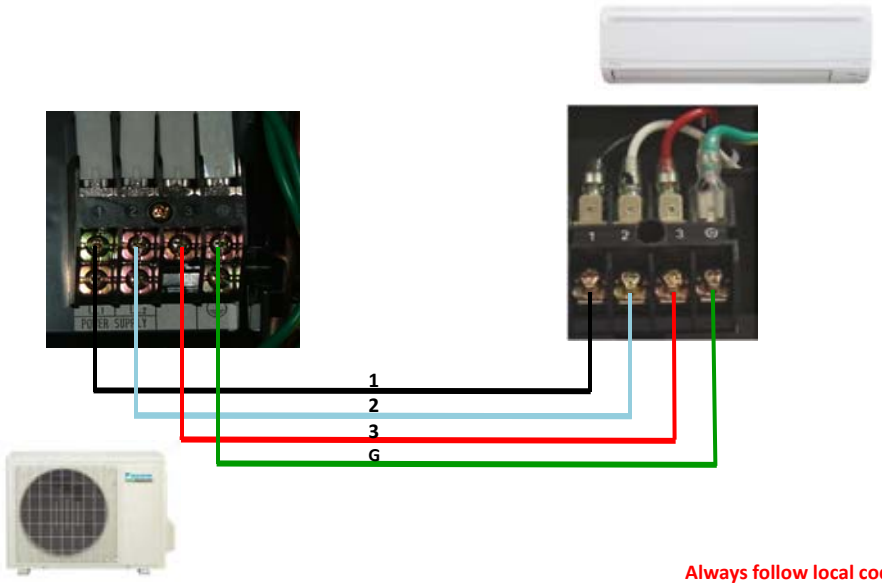
Inter-connecting control wiring

4 conductor weather proof stranded cable

Wire Size	Connection Wire Length
16 AWG	< 32.8 ft
14 AWG	≥32.8 ft

Always follow local codes

Single Split Wiring



Always follow local codes

Electrical Specification for Multi Split

- Only a single 20Amp dedicated circuit is required to power the 2,3 & 4-Port Multi Split systems including all indoor units!
- There are no Locked Rotor Amps so Back-up generators can be reduced in size.

Certified Efficiency Performance Values

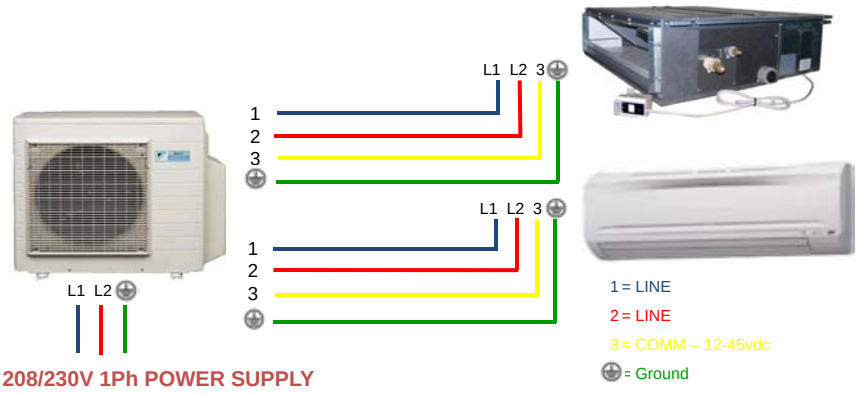
System	AHRI Number	Combined With	Nominal Cooling Capacity	EER	SEER	Nominal Heating Capacity	COP	Low Heating Capacity	COP	HSPF
			Btu/h	95 °F		Btu/h	47 °F	Btu/h	17 °F	
2MXS18GVJU	3059249	Non Ducted Indoor Unit	18,000	12.60	19.50	22,000	3.40	13,500	2.70	9.20
	3059247	Ducted Indoor Unit	16,000	9.00	13.00	22,000	2.90	13,100	2.20	7.70
	3059248	Mixed Ducted and Non Ducted Indoor Unit	17,000	10.80	16.30	22,000	3.15	13,300	2.45	8.50
3MXS24JVJU	3697115	Non Ducted Indoor Unit	24,000	12.50	16.60	30,000	3.20	19,300	3.20	9.00
	3699491	Ducted Indoor Unit	23,400	9.70	13.00	29,000	2.70	18,100	2.70	7.70
	3759750	Mixed Ducted and Non Ducted Indoor Unit	23,600	11.10	14.80	29,400	2.95	18,600	2.95	8.35
4MXS32GVJU	3059253	Non Ducted Indoor Unit	30,600	10.30	17.20	32,000	3.40	22,200	2.30	9.30
	3059251	Ducted Indoor Unit	29,000	8.40	13.30	30,400	3.00	21,000	2.10	7.90
	3059250	Mixed Ducted and Non Ducted Indoor Unit	29,800	9.35	15.25	31,200	3.20	21,600	2.20	8.60

* Per AHRI, the certified ratings for variable-speed, multi-split systems are valid for all combinations of indoor units (based on combination types) with the specific outdoor unit listed above and in the AHRI Directory of Certified Equipment. Visit www.AHRIDirectory.org for further details and independent verification.

Performance Value table shown is located on Page 15 of General Catalog 2013, GCUSE13-07B

2-Port Multi Wiring

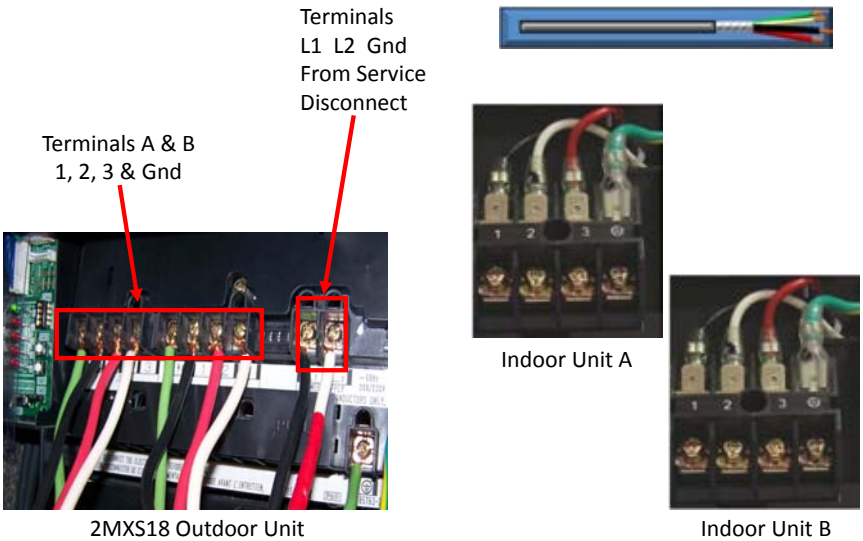
- 208/230VAC is connected to the outdoor unit on L1 L2 and Gnd
- 208/230VAC + comm. wire (4 conductor) are connected from the outdoor unit to both indoor units



Single 20 amp circuit to power the outdoor and both indoor units

Always follow local codes

2-Port Multi Wiring

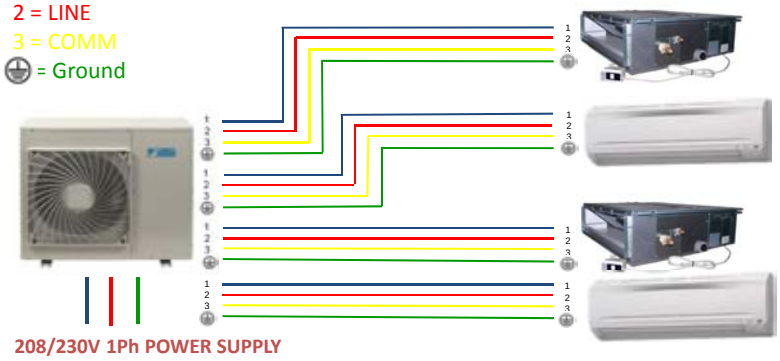


Always follow local codes

3 & 4 Port Multi Wiring

- 208/230 VAC is connected to the outdoor unit on L1 L2 and Ground
- Lines 1, 2, 3 + Ground (4 conductor) are connected from the outdoor unit to each indoor unit

1 = LINE
2 = LINE
3 = COMM
⏚ = Ground



208/230V 1Ph POWER SUPPLY

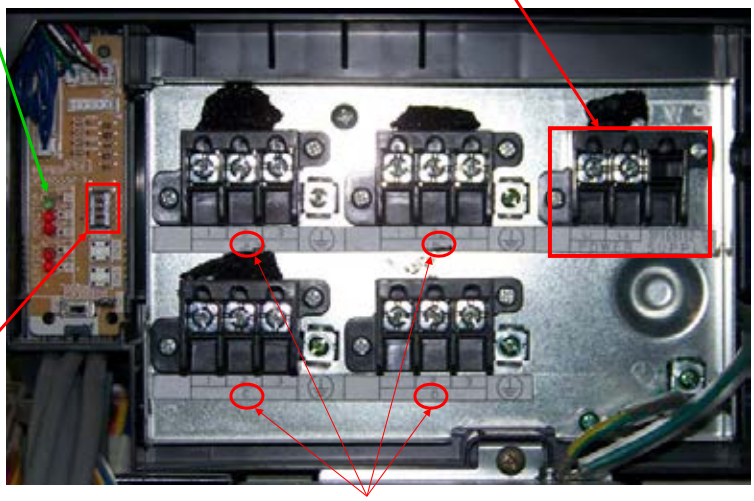
Single 20 amp circuit to power outdoor and all indoor units
Illustration shows 4-Port connections, other applications may differ.

Always follow local codes

3 & 4 Port Multi Wiring

Power indicator LED

Incoming power terminal block



Priority dip switches

A, B, C, & D Terminal block to indoor units
Illustration shows 4-Port connections, other applications may differ.

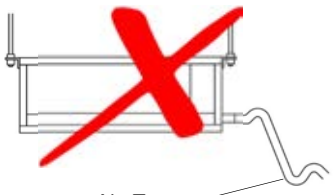
Always follow local codes

Condensate Pump Installation

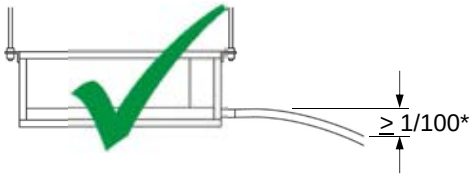
Ceiling Cassette Considerations

The FFQ Ceiling Cassette has a factory installed condensate lift pump with a 22 inch lift

Slim Duct Considerations



- Must not contain any traps or kinks in the line
- Must maintain an even slope of 1/100 or greater



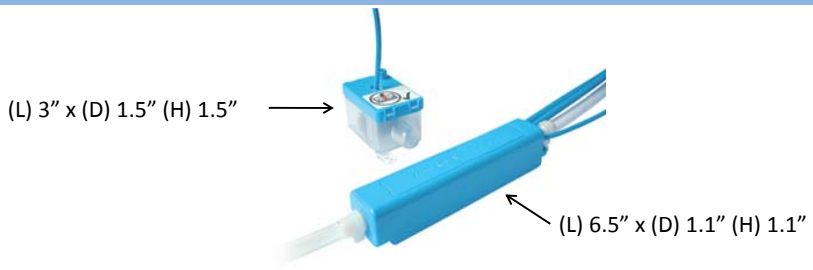
* Slope ≥ 1/100 (Rise/Run)

Wall Mount Considerations

Before You Start Installing Condensate Pump

- Installing a condensate pump behind a wall mount unit requires special consideration due to the limited amount of space left over after running the line set and line voltage behind the unit.
- If line set has to go out the left hand side of unit, follow the same instructions listed within for the right hand exit. Drain tubing lengths may very depending on materials used for line set, high voltage and drain. Cut lengths of tubing as you assemble drain and line set.
- When exiting on left side use one piece of ½" wall Armaflex insulation to cover both the liquid and suction lines behind unit. This will give you more room for the pump and float assembly. After you exit unit increase insulation back to ¾" wall and insulate the liquid and suction lines separately.
- After install, prime pump before starting unit. The pump will make a buzzing sound before it is primed with water. This is normal.

Aspen Pump Mini Aqua



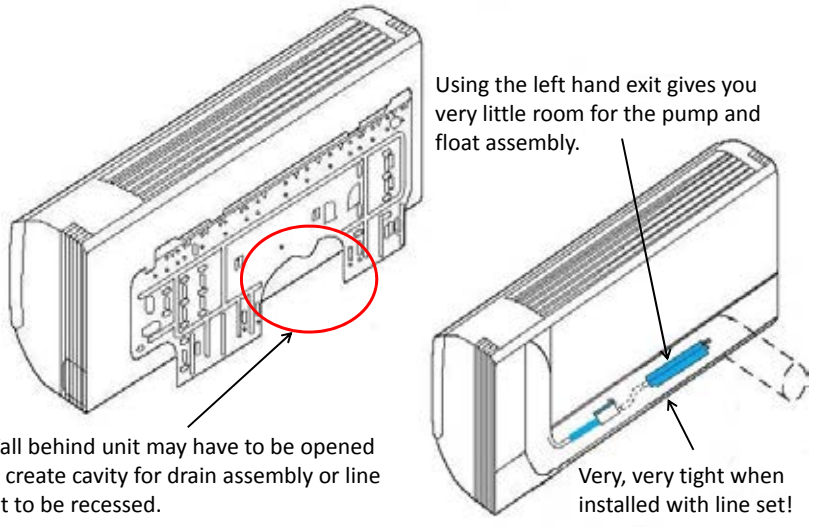
DACA-CP1-1

- Power Supply 110/230VAC 0.11 AMP, 16W 60 Hz
- Indoor unit capacities up to 24,000 Btu/h
- Pump capacity 3.7 GPH @ 0 head, 0.8 GPH @ 26 ft head
- Maximum recommended head of 26 ft
- Mounts inside indoor unit casing or inside the line set cover
- Sound level 21 dB(A) @ 3 ft
- ETL Listed
- Ideal for FTXS_LVJU & CTXS_LVJU indoor units

Note: Pump can be mounted 48” above and from float assembly

Installation Example

Example Left Hand Exit Installation



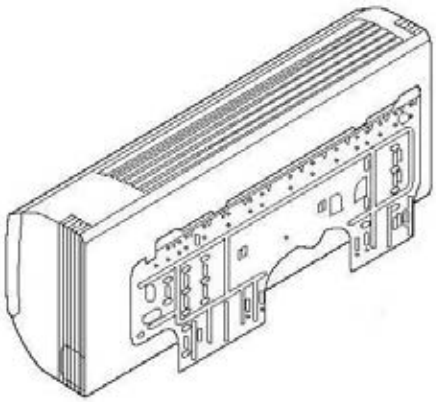
CTXS, FTXS All Sizes

View of Example

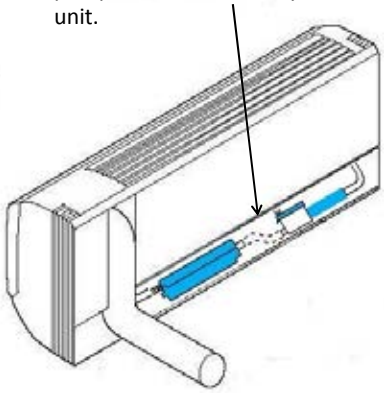
Rear of Wall Mount Unit

Installation Example

Example Right Rear Exit Installation



Using the right hand exit and reversing the drain to the left side will give you ample space for the pump and float assembly behind unit.



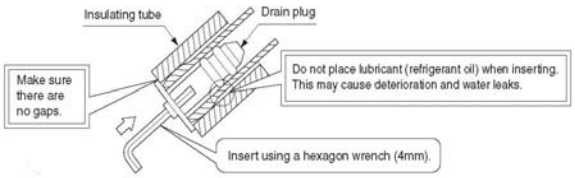
CTXS, FTXS All Sizes

View of Example

Rear of Wall Mount Unit

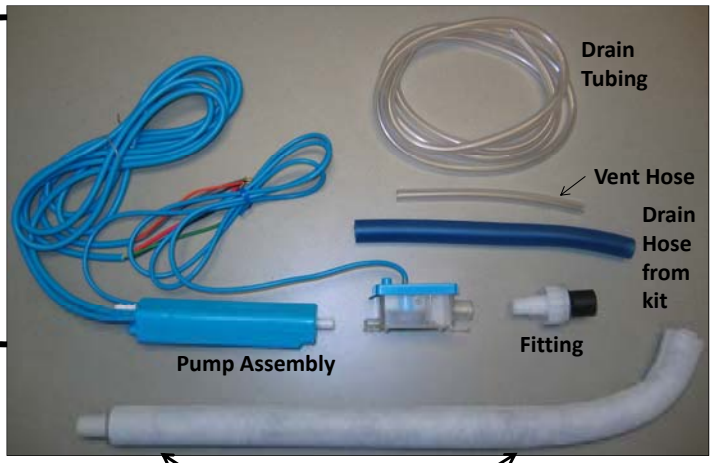
Right Rear Exit Considerations

Drain from unit must be swapped to the left hand side (factory shipped right hand).

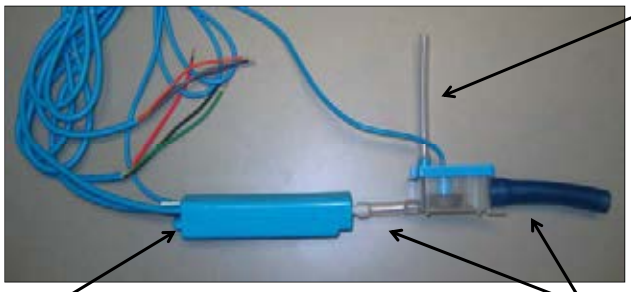


1. Remove the drain plug from left hand side. (see above) Plug can be twisted out carefully without tools. Use Allen wrench method if plug seems tight.
2. Grasp drain hose on unit very close to where it connects and gently twist out.
3. Swap Insulation tube.
4. Install drain plug in right hand side where drain hose was connected.

Installation Materials



Setting Up – Right Rear Exit



Cut vent hose to length after float assembly is in place.

Pump outlet connection. Run to main drain of building or equivalent.

Cut tubing as you assemble pump, line set and drain assembly.

Verify hose lengths before cutting. Lengths may vary depending on installation. Measure twice, cut once!

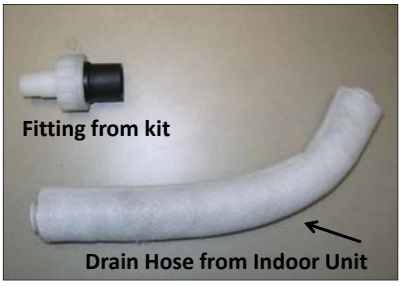
Setting Up – Right Rear Exit

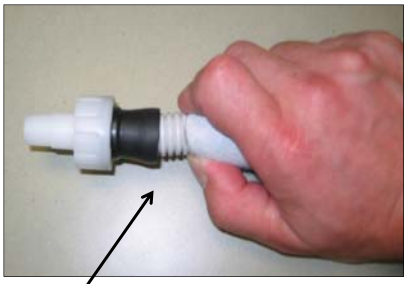
This end always connects to unit.

Cut the drain hose to size

Verify hose lengths before cutting. Lengths may vary depending on installation. Measure twice, cut once!

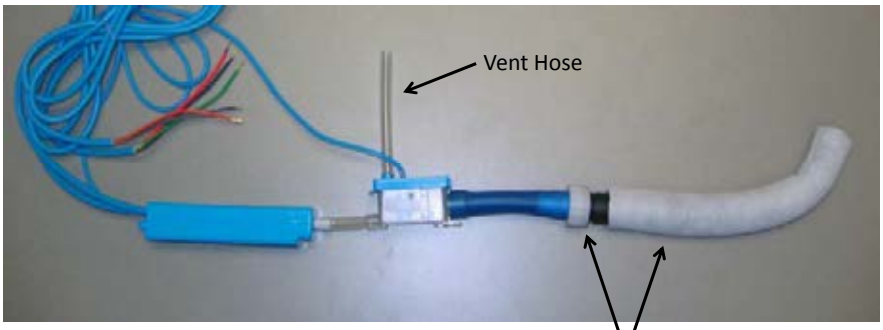
Setting Up – Right Rear Exit





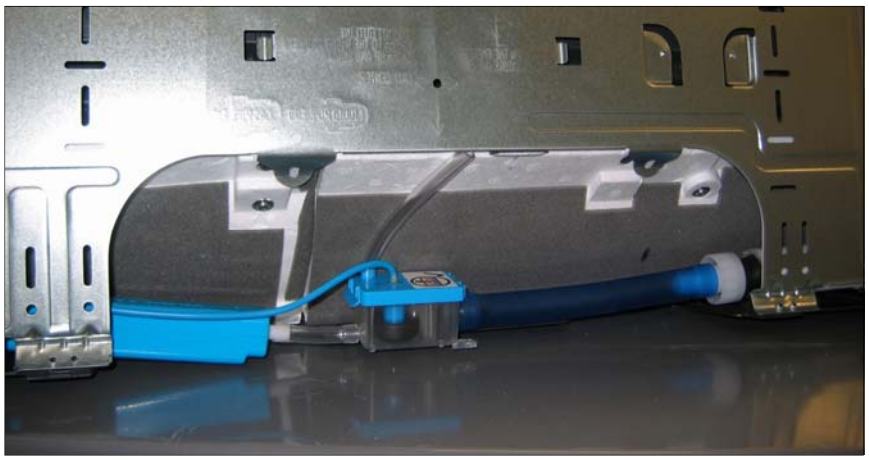
Hold back insulation and push corrugated tubing into fitting.
After it bottoms out slide insulation back towards fitting.

Setting Up – Right Rear Exit



Completed Drain & Pump Assembly Example

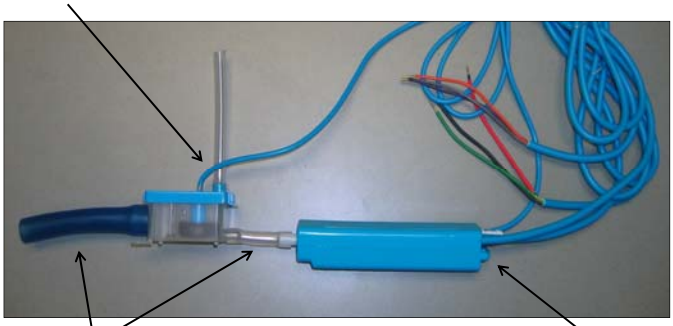
Example – Right Rear Exit



Right Hand Exit FTXS 18/24 Example, View from Rear.

Setting Up – Left Rear Exit

Cut vent hose to length after float assembly is in place.



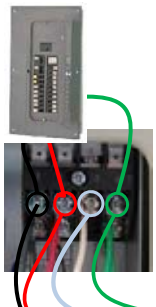
Cut tubing as you assemble pump, line set and drain assembly.

Pump outlet connection. Run to main drain of building or equivalent.

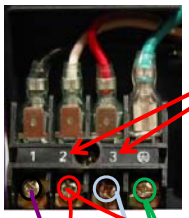
Verify hose lengths before cutting. Lengths may vary depending on installation. Measure twice, cut once!

Condensate Pump Wiring

208-230 VAC 1PH



Indoor Unit Terminals



Very Important

- **Do not disturb the # 2 or #3 Communication wire**
- **Do not disturb the #4 Ground wire**
- **Run wires all together**

These 3 wires need to run terminal to terminal (condenser to evaporator).

1 amp in line fuse (comes with pump)

Power wires for pump

Outdoor Unit Terminals

Normally closed wire from pump safety circuit

Wire Nuts

Cap normally open wire from pump safety circuit

DACA-CP1-1

CTXS, FTXS, CDXS & FDXS Wiring

Prime Condensate Pump

Don't forget to prime pump!
The pump will buzz for a minute or two while it is pulling the water through itself.

Optional Gravity Drain DACA-CFS1

FTXS/CTXS/ FTXN/FTXG Wallmount Units

- Condensate overflow protection for all Daikin wallmount fan coil units
  - Microelectronic control
  - No moving parts
- Simple two component installation
  - Drain Pan Water Sensor
  - Electronic Control Switch

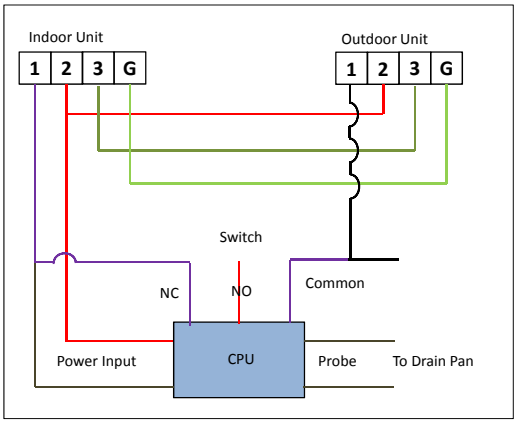
DACA- CFS1

Electronic Control Switch
Line Voltage Powered

Drain Pan Water Sensor

DACA-CFS1 Wiring

- For installation, Daikin AC recommends mounting the sensor on the right hand corner of the heat exchanger as facing the front of the fan coil and where the electrical box will be to the right of the fan coil.
- Once mounted at the appropriate height, Daikin AC recommends wiring the sensor assembly for mini split wall mounted units (FTXN, FTXS, FTXG, & CTXS models) as shown to the right
- Refer to the float switch installation manual for all other installation instructions



DACA-CFS1

Controls

RLC Wireless Remote Controllers

ARC452

FTXN_KEVJU
FDXS_LVJU
FTXS_LVJU

ARC447
FTXG_HVJU

BRC7E830
Option

RLC Wired Remote Controllers

BRC944
Option

FDXS_LVJU
FTXS_LVJU

DACA-TS1-1
Option

FDXS_LVJU
FTXS_LVJU

Field Settings

Field Settings

Addressing the Mini Split Remote Controller

When two indoor units are installed in one room, the two wireless remote controllers can be set for different addresses.

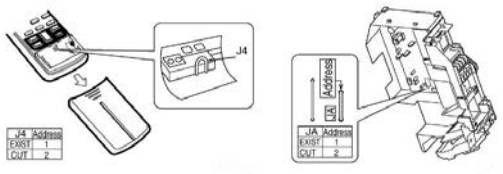
How to set the different addresses

■ Control PCB of the indoor unit

(1) Remove the front grille. (3 screws)
(2) Remove the electrical box (1-screw).
(3) Remove the drip proof plate. (4 tabs)
(4) Cut the address jumper JA on the control PCB.

■ Wireless remote controller

(1) Slide the front cover and take it off.
(2) Cut the address jumper J4.



Field Settings

Setting Priority

With the 2,3 & 4-Port systems, one of the indoor fan coils must dictate the system mode of operation, for heat or cool.

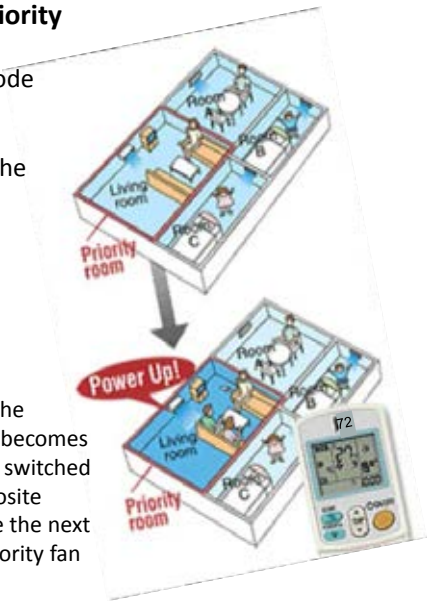
Daikin provides two options to determine the Priority fan coil:

Option 1 (Recommended)

At the time of system commissioning, one fan coil is configured as the Master from the Outdoor Unit.

Option 2

If a priority indoor fan coil is not selected from the Outdoor Unit, the first indoor unit switched ON becomes the temporary Master. When this indoor unit is switched OFF, the next indoor unit which has had an opposite active call for the longest period of time is made the next temporary Master. Therefore, the "floating" priority fan coil function is adopted.



Field Settings

Multi 2, 3, & 4-Port Priority Set Up

- You should choose a Priority Unit during install.
- For 2-Port Multi. Inside outdoor unit on PCB slide A or B dip switch over opposite others.
- For a 3 or 4-Port Multi. Inside outdoor unit on PCB slide A, B, C or D dip switch over opposite others.
- This must be done with power off.

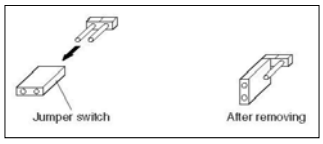
Field Settings

Night Quiet Mode Activation

The Night Quiet Mode function reduces operating noise of the outdoor unit at nighttime. This function is useful if the customer is worried about the effects of the operating noise on the neighbors. However, if Night Quiet Mode is running, cooling capacity will be reduced.

Must be setup during install.

Setting procedure:
1. Remove theSW5 jumper switch
2. Retain switch as shown below for future disable of Night Quiet Mode
3. Reset power



Multi Split 2, 3, & 4-Port Outdoor Unit

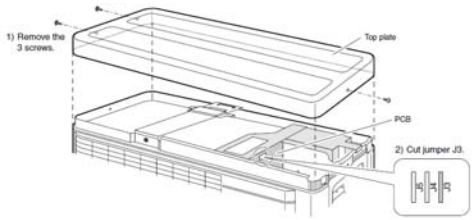
Low Ambient Cooling (KEVJU)

RKN_KEVJU/RXN_KEVJU Low Ambient Cooling

Disconnect power from outdoor unit, then wait 10 minutes before cutting jumper

Cutting jumper (J3) on the PCB, as shown below, will expand the operation range down to 14°F (–10°C). If the outdoor temperature drops below –4°F (–20°C), the operation stops and starts back up once the temperature rises again.

1. Remove the 3 screws on the side and remove the top plate of the outdoor unit.
2. Remove the drip proof cover.
3. Cut the jumper (J3).



This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

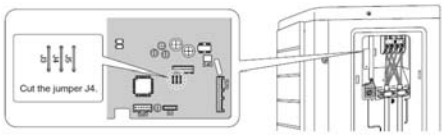
Low Ambient Cooling (LVJU)

RXS_LVJU Low Ambient Cooling

Disconnect power from outdoor unit, then wait 10 minutes before cutting jumper

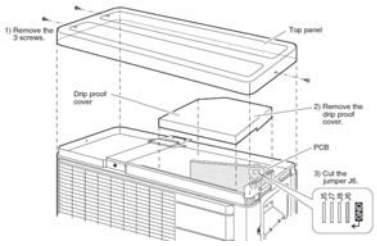
RXS09-12LVJU

Cutting jumper (J4) on the PCB, as shown below, will expand the operation range down to 14°F (–10°C). If the outdoor temperature drops below –0.4°F (–18°C), the operation stops and starts back up once the temperature rises again.



RXS15 & 18LVJU

Cutting jumper (J6) on the PCB, as shown below, will expand the operation range down to 14°F (–10°C). If the outdoor temperature drops below –0.4°F (–18°C), the operation stops and starts back up once the temperature rises again.



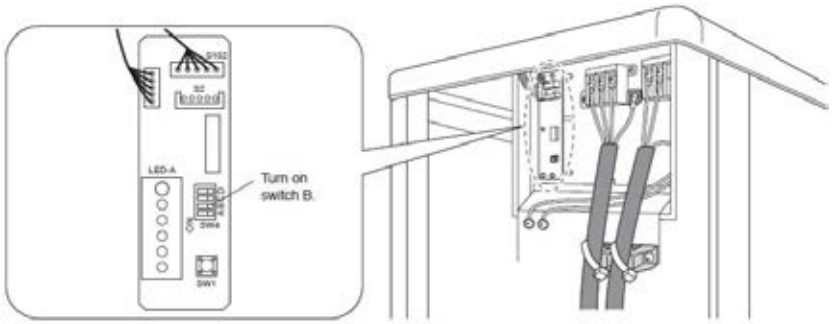
This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

Low Ambient Cooling (LVJU)

RKS30/36LVJU & RXS24/30/36LVJU Low Ambient Cooling

This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

Turning on Switch B will expand the operation range down to 14°F (–10°C). If the outdoor temperature drops below –0.4°F (–18°C), the operation stops and starts back up once the temperature rises again.



Year-Round Cooling kits available, 2F018535-1 & 2F018535-2, allow low ambient cooling to -40°F

Start Up

System Start Up Checklist

- Indoor and outdoor units are installed securely & are level.
- Pressure test system to 550 PSIG for 24 hours.
- Perform triple evacuation on system.
  - Break with nitrogen, to 500 microns.
- Calculate liquid line length and corresponding required additional refrigerant charge.
  - Weigh in additional charge to liquid line.
- Open service valves.
- Check supply voltage (L1 to L2).
  - Must read between 187 and 253 volts.

System Start Up Checklist

- Ensure all drain pipe is properly connected.
- Ensure all filters are in place.
- Ensure all refrigerant piping is properly insulated.
  - Insulate each line independently.
- Power system on for 6 hours.
  - Single Split – Turn on the indoor unit using the remote control and test each mode of operation
  - Multi Split – Turn on each indoor unit individually using the remote control and test each mode of operation.

NOTE: All modes of operation may not be available depending on the outside ambient conditions, see the sequence of operation for more information.

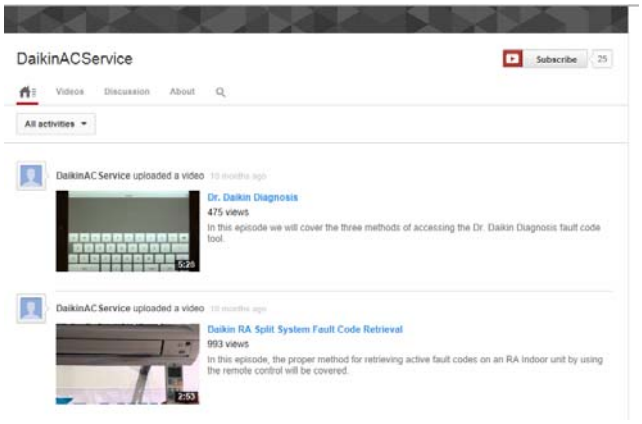
If system does not operation properly, proceed to Troubleshooting section

Troubleshooting

Troubleshooting Videos

"How to" troubleshooting videos are available on the Daikin AC Service channel

http://www.youtube.com/user/DaikinACService?feature=mhee



Daikin eQuip App

The Daikin eQuip App includes:

- Technical Specifications
- System Compatibility List
- Error Code Descriptions
- System Configuration Details (Field Settings, Emergency Settings, etc.)
- Thermistor Information
- Technical Documents (Installation and Operation Manuals, Submittal Data Sheets)

NOTE: Access to modules requires registration through the Daikin eQuip app (Wi-Fi or Cellular service required). Users will be designated a user type based on registration criteria and will have access to select modules and functions. Daikin University module is available to all users.

Daikin eQuip App Cont.

- Spare Parts Database
- Additional Refrigerant Calculations
- Marketing Materials (Product Brochures and Flyers)
- Daikin University Course Listings
- Unit of Measurement Converter
- General Information (News Updates, FAQ's, Dealer Directory, Daikin AC Key Department Contact Directory)

NOTE: Access to modules requires registration through the Daikin eQuip app (Wi-Fi or Cellular service required). Users will be designated a user type based on registration criteria and will have access to select modules and functions. Daikin University module is available to all users.

Dr. Daikin

DAIKIN AC
absolute comfort

Dr. Daikin
Diagnostic Tool

Fault Code Identification

Three ways to help with ERROR CODES:

WEB: www.drdaikin.com
MOBILE WEB: http://mobile.drdaikin.com
SMS TEXT: **Error** plus (**code**)
- send to 32075 -
Example: Error U4

Troubleshooting Steps

If the system does not operate when turned ON,
use the following steps to test the operation of the equipment.

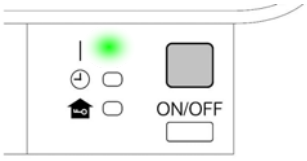
1. Turn ON the unit and place it in Heating or Cooling mode (depending on season), wait 15 to 20 minutes.
2. When the unit is operating without error, the green light on the front of the wall mount unit or green light on the wired receiver for the ducted unit will remain ON and solid. If there is an error present, this green light will be ON and blinking (Slide 102). See slide 103 for steps to retrieve active error code from the remote controller.
3. The charts provided on slides 104 & 105 give a brief description on each error code. For more information, consult the Service Manual for the unit your working on or the Daikin eQuip app. All Daikin manuals can be found at www.daikinac.com.
4. Multi Split system only – Troubleshooting is available from the outdoor unit PCB. See slide 106 for steps to retrieve active error code from the outdoor unit.
5. If green light is ON and solid, try running the system through Trial or Test mode. These modes test operation of the system. See slides 107-116 on how to initiate Trial and Forced Operation modes.
6. If more than the above steps are needed, contact your local Rep or Distributor for assistance.

System Fault Indication

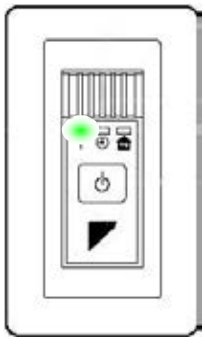
The green operation lamp on the indoor unit's front panel will flash when:

- A protection device in the indoor or outdoor unit activates
- A thermistor malfunctions
- A signal transmission error occurs

CTXS/FTXS09/12LVJU

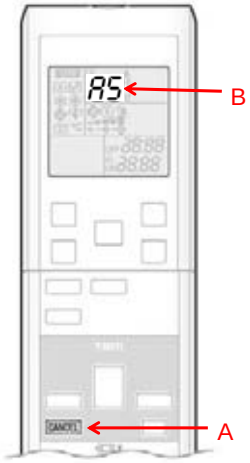


FTXS09 thru 24LVJU



FDXS & CDXS_LVJU

Fault Diagnosis from the Remote Controller



Your remote controller may look slightly different but same steps apply.

- Press and hold the “Timer Cancel” button (A) for 5 seconds to activate the service check function and a long beep will sound from the indoor unit.
- The temperature display on the remote’s LCD display flashes “00” (B). As you continue to press the Cancel button, error codes will continue to display with a short beep.
- Press the “Timer Cancel” button (A) repeatedly until a long “beep” is heard.
- The temperature display changes from flashing “00” to the last fault code stored in memory (B).
- Press and hold the “Timer Cancel” button (A) for 5 seconds to deactivate the service check function.
- Service check mode will cancel automatically after 1 minute.

System Fault Indication

	Error Codes	Description	
System	00	Normal	
	U0★	Refrigerant shortage	
	U2	Low-voltage detection or over-voltage detection	
	U4	Signal transmission error (between indoor unit and outdoor unit)	
	U8	Unspecified voltage (between indoor unit and outdoor unit)	
Indoor Unit	A1	Indoor unit PCB abnormality	
	A5	Freeze-up protection control or heating peak-cut control	
	A6	Fan motor or related abnormality	DC motor (FTXS series)
			AC motor (FDXS series)
	C4	Indoor heat exchanger thermistor or related abnormality	
	C9	Room temperature thermistor or related abnormality	

★: Displayed only when system-down occurs.

System Fault Indication

Outdoor Unit	E1	Outdoor unit PCB abnormality
	E5★	OL activation (compressor overload)
	E6★	Compressor lock
	E7★	DC fan lock
	E8	Input overcurrent detection
	E9	Four way valve abnormality
	F3	Discharge pipe temperature control
	F6	High pressure control in cooling
	H0	Compressor system sensor abnormality
	H6	Position sensor abnormality
	H8	DC voltage / current sensor abnormality (09/12 class only)
		CT or related abnormality (24/30/36 class only)
	H9	Outdoor temperature thermistor or related abnormality
	J3★	Discharge pipe thermistor or related abnormality
	J6	Outdoor heat exchanger thermistor or related abnormality
	L3	Electrical box temperature rise
	L4	Radiation fin temperature rise
	L5★	Output overcurrent detection
	P4	Radiation fin thermistor or related abnormality
	U2	Signal transmission error on outdoor unit PCB (24/30/36 class only)

★: Displayed only when system-down occurs.

System Fault Indication

Multi Split 2/3/4MXS Diagnostic by Outdoor Unit PCB

1. The indications in the parenthesis () in the remote controller display column are displayed only system-downs occurs.
2. When a sensor error occurs, check the remote controller display to determine which sensor is malfunctioning.

   If the remote controller does not indicate the error type, conduct the following operation. * Turn the power switch off and back on again.
3. If the same LED indication appears again immediately after the power is turned on, the fault is the thermistor. * If the above condition does not result, the fault is the CT.
4. The indoor unit error indication may take the precedence in the remote controller display.

Outdoor Unit LED Indication					Indication on the remote controller	Description of The Fault
Green	Red					
A	1	2	3	4		
◑	●	●	●	●	00	Outdoor unit in normal condition (Conduct a diagnosis of the indoor unit.)
					UR	Unspecified voltage (between indoor and outdoor units)
					UH	Anti-icing function in other rooms
◑	●	●	○	○	(U0)	Insufficient gas
◑	○	●	○	●	(E5)	OL activation (compressor overload)
◑	●	○	○	●	(E6)	Compressor lock
◑	○	●	○	●	F3	Discharge pipe temperature control
◑	●	●	●	○	L4	Radiation fin temperature rise (Protection of driver overheating)
◑	○	○	●	●	H8	CT or related abnormality
◑	○	○	●	●	H6	Position sensor abnormality
					H9	Outdoor air thermistor or related abnormality
					J3	Discharge pipe thermistor or related abnormality
					J6	Heat exchanger thermistor or related abnormality
					J8	Liquid pipe thermistor or related abnormality
					J9	Gas pipe thermistor or related abnormality
					P4	Radiation fin thermistor or related abnormality
◑	●	●	○	●	L5	Output over current detection
◑	●	○	●	○	E8	Input over current detection
◑	○	●	○	○	A5	Freeze-up protection control
◑	○	○	○	○	E7	DC fan lock
◑	○	●	●	●	E9	Four way valve abnormality
◑	○	○	●	○	L3	Electrical box temperature rise
◑	○	●	●	○	U2	Low-voltage detection

○: ON, ●: OFF, ◑: Blinks

Green: Flashes when in normal condition
Red: OFF in normal condition

Trial & Forced Operation

Trial Operation

- Trial mode is a self diagnostic check.

Forced Operation

- Cooling mode can be forced from the indoor or outdoor unit (model specific).
- Multi Split systems additionally can force Heat mode from the outdoor unit.

NOTE: With a multi-split doing forced operation from the outside does not tell if the units are misswired. The technician must do a test run from each indoor unit to make sure units are wired correctly.

Trial Operation

KEVJU, LVJU & Multi Series

1. Trial operation and testing

(1) Measure the supply voltage and make sure that it falls in the specified range.
(2) Trial operation should be carried out in either cooling or heating mode.

Trial operation from remote controller
(1) Press ON/OFF button to turn on the system. (2) Simultaneously press center of TEMP button and MODE button. (3) Press MODE button twice. ("T" will appear on the display to indicate that Trial Operation mode is selected.) (4) Trial operation mode terminates in approx. 30 minutes and switches into normal mode. To quit the trial operation, press ON/OFF button.

In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.
- Trial operation may be disabled in either mode depending on the room temperature.
- After trial operation is complete, set the temperature to a normal level (79°F (26°C) to 82°F (28°C) in cooling mode, 68°F (20°C) to 75°F (24°C) in heating mode).
- For protection, the system disables restart operation for 3 minutes after it is turned off.

(3) Carry out the test operation in accordance with the Operation Manual to ensure that all functions and parts, are working properly.
* The air conditioner requires a small amount of power in its standby mode. If the system is not to be used for some time after installation, shut off the circuit breaker to eliminate unnecessary power consumption.
* If the circuit breaker trips to shut off the power to the air conditioner, the system will restore the original operation mode when the circuit breaker is turned on again.

Trial Operation

Quaternity Series

1. Trial operation and testing.

1-1. Measure the supply voltage and make sure that it falls in the specified range.

1-2. Trial operation should be carried out in either cooling or heating mode.

- In cooling mode, select the lowest programmable temperature; in heating mode, select the highest programmable temperature.
  1) Trial operation may be disabled in either mode depending on the room temperature. Use the remote controller for trial operation as described below.
  2) After trial operation is complete, set the temperature to a normal level (78°F to 82°F (26°C to 28°C) in cooling mode, 68°F to 75°F (20°C to 24°C) in heating mode).
  3) For protection, the system disables restart operation for 3 minutes after it is turned off.

1-3. Operate the unit in accordance with the operation manual to check that it operates normally.

- Even when the air conditioner is not operating, it consumes some electric power. If the customer is not going to use the unit soon after it is installed, turn off the breaker to avoid wasting electricity.

Trial operation from remote controller

1) Hold the "CLOCK button" for 5 seconds.
   (The matrix display will appear on the remote controller.)
2) Display "SETTING / TEST" on the matrix display of the remote controller and press the "CLOCK button".
3) "TEST" will be displayed and the unit will enter test run mode.
4) Press the button for test run mode.
   - Test run mode will stop automatically after around 30 minutes. Press the ON/OFF button to force the test-run to stop.

Forced Operation (KEVJU)

Indoor Units
FTXN09KEVJU
FTXN12KEVJU

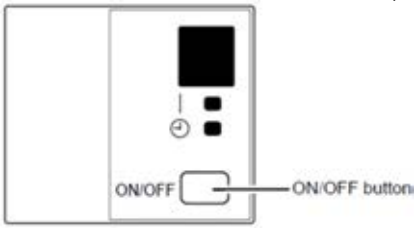
Using the indoor unit ON/OFF switch

- Press the indoor unit ON/OFF switch for at least 5 seconds. (Operation will start)
  - Forced cooling operation will stop automatically after around 15 minutes. To force a trial operation to stop, press the indoor unit ON/OFF switch.

Using the indoor unit's remote controller

1. Press the ON/OFF button. (Operation will start)
2. Press the TEMP button and the MODE button at the same time.
3. Press the MODE button twice. ("TEST" will be displayed and the unit will enter trial operation)
4. Press the MODE button to return the operation mode to cooling.

- Trial operation will stop automatically after around 30 minutes. To force a trial operation to stop, press the ON/OFF button.



Forced Operation (KEVJU)

Indoor Units
FTXN15KEVJU
FTXN18KEVJU
FTXN24KEVJU

Outdoor Units
RKN15KEVJU
RXN15KEVJU
RKN18KEVJU
RXN18KEVJU
RKN24KEVJU
RXN24KEVJU

Using the indoor unit ON/OFF switch

- Press the indoor unit ON/OFF switch for at least 5 seconds. (Operation will start)
  - Forced cooling operation will stop automatically after around 15 minutes. To force a trial operation to stop, press the indoor unit ON/OFF switch.

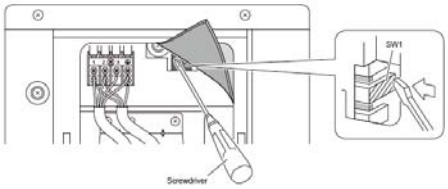
Using the indoor unit's remote controller

1. Press the MODE button and select the cooling mode.
2. Press the ON/OFF button to turn on the system.
3. Press both the TEMP button and the MODE button at the same time.
4. Press the MODE button twice. (will be displayed an the unit will enter trial operation)
5. Press the MODE button to return the operation mode to cooling.

Trial operation will stop automatically after around 30 minutes. To stop trial operation, press the ON/OFF button.

Using the outdoor unit forced cooling operations switch

1. Push on SW1 with a screwdriver. The unit will start operating.
2. The forced cooling mode is selected, and terminates in approximately 15 minutes.



Forced Operation (LVJU)

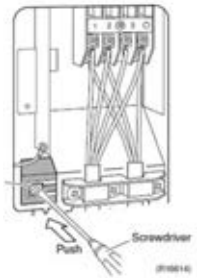
Indoor Units
FDXS09LVJU
FDXS12LVJU
FTXS09LVJU
FTXS12LVJU

Outdoor Units
RXS09LVJU
RXS12LVJU

Using the indoor unit's remote controller

1. Press the MODE button and select the cooling mode.
2. Press the ON/OFF button to turn on the system.
3. Press both the TEMP button and the MODE button at the same time.
4. Press the MODE button twice. (will be displayed and the unit will enter forced cooling operation)
5. Press the MODE button to return the operation mode to cooling.

Forced cooling operation will stop automatically after around 30 minutes. To stop the operation, press the ON/OFF button.



Using the outdoor unit forced cooling operations switch
Forced cooling operation can be performed when the outdoor unit forced cooling operation switch is pressed within around 3 minutes after power is supplied.

- Push on (SW1) with a screwdriver. The unit will start operating.
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the SW1 switch.

Forced Operation (LVJU)

Indoor Units
FTXS15LVJU
FTXS18LVJU

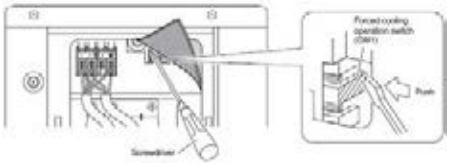
Outdoor Units
RXS15LVJU
RXS18LVJU

Using the indoor unit ON/OFF switch
- Press the indoor unit ON/OFF switch for at least 5 seconds. (Operation will start)
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the indoor unit ON/OFF switch.

Using the indoor unit's remote controller
1. Press the MODE button and select the cooling mode.
2. Press the ON/OFF button to turn on the system.
3. Press both the TEMP button and the MODE button at the same time.
4. Press the MODE button twice. (will be displayed and the unit will enter forced cooling operation)

Forced cooling operation will stop automatically after around 30 minutes. To stop the operation, press the ON/OFF button.

Using the outdoor unit forced cooling operations switch
Forced cooling operation can be performed when the outdoor unit forced cooling operation switch is pressed within around 3 minutes after power is supplied.
- Push on (SW1) with a screwdriver. The operation will start.
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the SW1 switch.



Forced Operation (LVJU)

Indoor Units
FTXS24LVJU

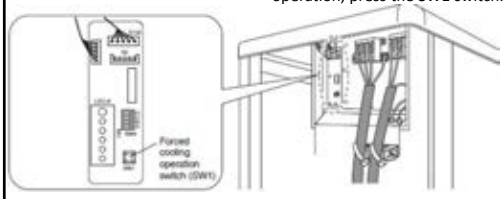
Outdoor Units
RXS24LVJU

Using the indoor unit ON/OFF switch
- Press the indoor unit ON/OFF switch for at least 5 seconds. (Operation will start)
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the indoor unit ON/OFF switch.

Using the indoor unit's remote controller
1. Press the MODE button and select the cooling mode.
2. Press the ON/OFF button to turn on the system.
3. Press both the TEMP button and the MODE button at the same time.
4. Press the MODE button twice. (will be displayed and the unit will enter forced cooling operation)

Forced cooling operation will stop automatically after around 30 minutes. To stop the operation, press the ON/OFF button.

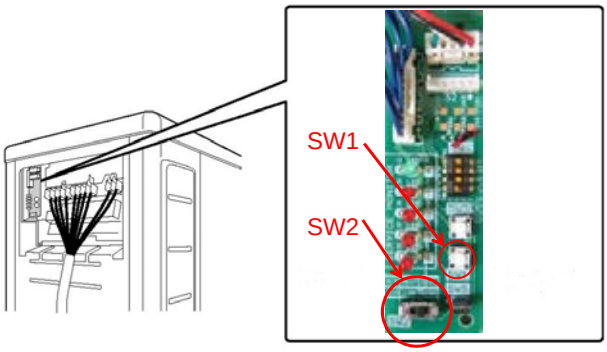
Using the outdoor unit forced cooling operations switch
Forced cooling operation can be performed when the outdoor unit forced cooling operation switch is pressed within around 3 minutes after power is supplied.
- Press the switch (SW1). The operation will start.
- Forced cooling operation will stop automatically after around 15 minutes. To stop the operation, press the SW1 switch.



Forced Operation Multi-Split

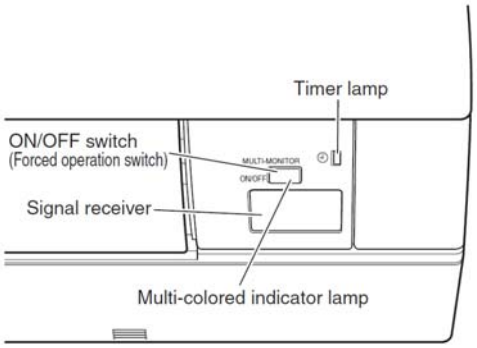
Outdoor Units
2MXS18GVJU
3MXS24GVJU
4MXS32GVJU

1. Turn the Operation Mode switch SW2 to "COOL".
2. Press the Forced Operation switch SW1 to begin forced cooling. Press the Forced Operation switch SW1 again to stop forced cooling.
3. Push SW1 to stop or forced Cooling will terminate after 15 minutes.
4. Multi Split systems can also test Heating mode, move SW2 to "HEAT", then follow steps 2&3.



Forced Operation Quaternity

Indoor Units
FTXG09HVJU
FTXG12HVJU
FTXG15HVJU



How to force cooling operation mode

■ **Using the indoor unit operation/stop button**

Press the indoor unit operation/stop button for at least 5 seconds. (Operation will start.)

- Forced cooling operation will stop automatically after around 15 minutes.
  To force a test run to stop, press the indoor unit operation/stop button.

Pump Down Mode

The equipment listed in this presentation all can pump themselves down, refrigerant will be stored in the outdoor unit.

There are different steps depending on model, see slides 117-118.

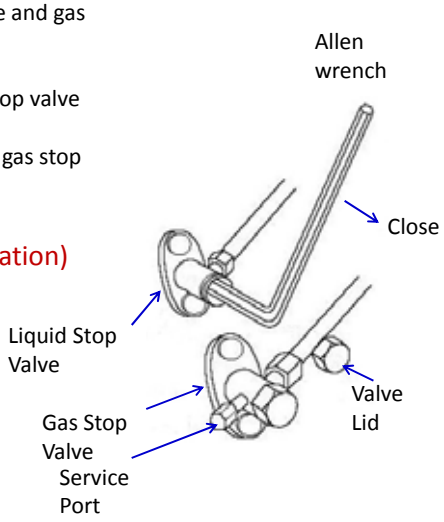
Pump Down Mode

KEVJU (see slides 109-110 for forced operation)

1. Remove the valve lids from liquid stop valve and gas stop valve.
2. Carry out forced cooling operation.
3. After five to ten minutes, close the liquid stop valve with a metric Allen wrench.
4. After two to three minutes more, close the gas stop valve and stop forced cooling operation.

LVJU (see slides 111-113 for forced operation)

1. Remove the valve lids from liquid stop valve and gas stop valve.
2. Carry out forced cooling operation.
3. After five to ten minutes, close the liquid stop valve with a metric Allen wrench.
4. After two to three minutes more, close the gas stop valve and stop forced cooling operation.

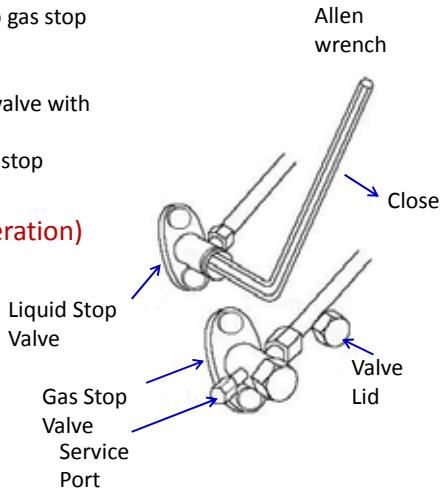


Use refrigeration gauges to verify no pressure is present prior to disconnecting any piping.

Pump Down Mode

Multi Split 2, 3, & 4-Port Outdoor Unit
(see slide 114 for forced operation)

1. Remove the valve lids from both liquid stop gas stop valve.
2. Carry out forced cooling operation.
3. After five to ten minutes, close liquid stop valve with a metric Allen wrench.
4. After two to three minutes more, close gas stop valve and stop forced cooling operation.



Quaternity (see slide 115 for forced operation)

1. Remove the valve lids from liquid stop valve and gas stop valve.
2. Carry out forced cooling operation.
3. After five to ten minutes, close the liquid stop valve with a metric Allen wrench.
4. After two to three minutes more, close the gas stop valve and stop forced cooling operation.

Use refrigeration gauges to verify no pressure is present prior to disconnecting any piping.

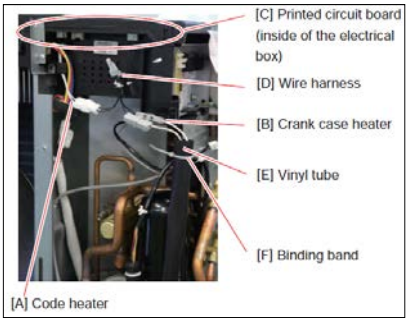
Accessories

Year-Round Cooling Kit (SkyAir)

This function is designed for facilities such as equipment or computer rooms. It is never to be used in a residence or office where people occupy the space.

Kit Model	Outdoor Unit	Indoor Unit
2F018535-1	RKS30LVJU	FTXS30LVJU
2F018535-2	RKS36LVJU	FTXS36LVJU

Optional outdoor unit wind baffle, KPW5E112, is required and sold separately.

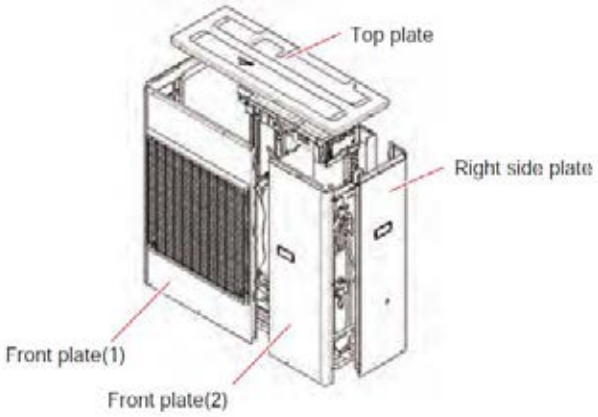


After Kit Installation is Complete

Year-Round Cooling Kit Installation Step 1

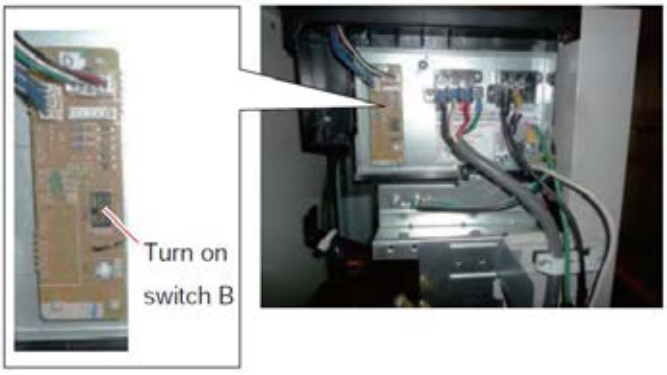
Remove panels

- Top plate
- Right side plate
- Front plate 1
- Front plate 2



Year-Round Cooling Kit Installation Step 2

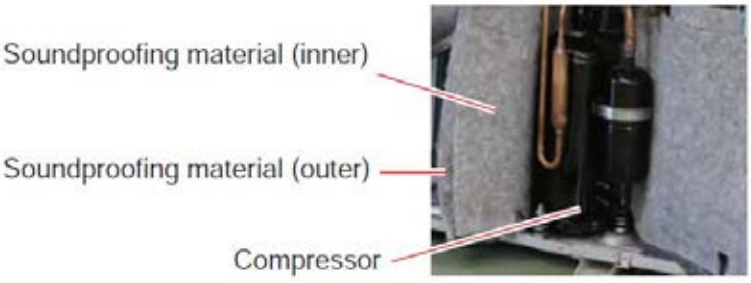
Turn on Switch B on outdoor unit PCB.



Year-Round Cooling Kit Installation Step 3

Attach crank case heater to the compressor.

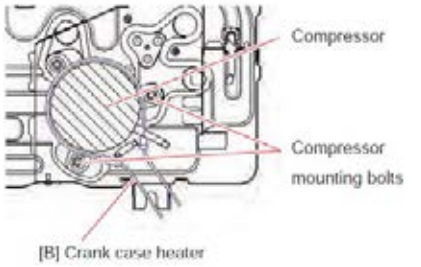
First, open up the soundproofing material (inner and outer)

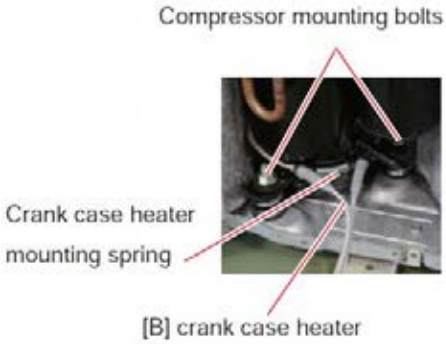


Year-Round Cooling Kit Installation Step 3 Cont.

Attach crank case heater to the compressor (cont.).

1. Wrap the crank case heater around the compressor.
2. Secure the crank case heater mounting spring so that it sits between the two compressor mounting bolts as shown.

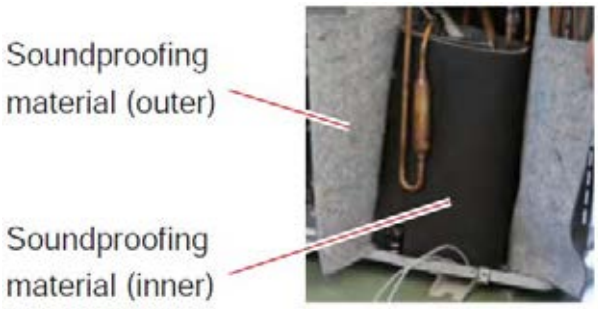




Year-Round Cooling Kit Installation Step 3 Cont.

Attach crank case heater to the compressor (cont).

3. Close the sound proofing material (inner)



Year-Round Cooling Kit Installation Step 4

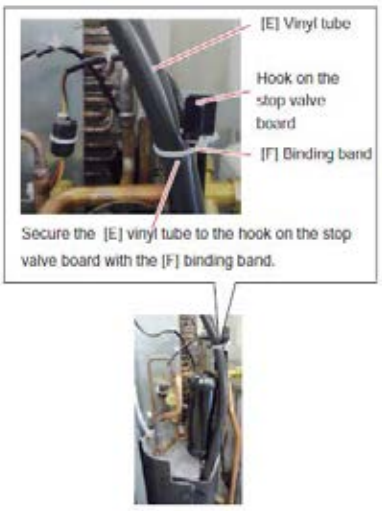
Attach the vinyl tube to the crank case heater

1. Run the crank case heater's lead wire through the vinyl tube.
2. Position the vinyl tube as shown in the figure and close the soundproofing material (outer), returning it to its original state.

Year-Round Cooling Kit Installation Step 4 Cont.

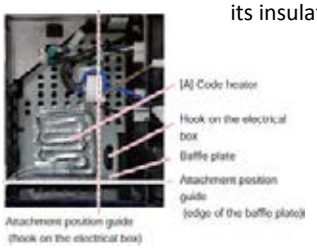
Attach the vinyl tube to the crank case heater (cont.).

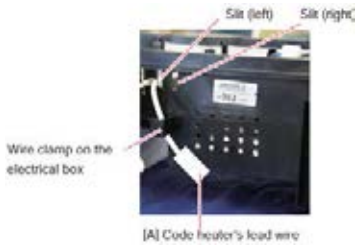
3. Secure the vinyl tube to the hook on the stop valve board with the binding band at the position shown in the figure.



Year-Round Cooling Kit Installation Step 5

- Remove electrical box.
- Attach code heater to electrical box.
  1. Attach the [A] code heater to the baffle plate, using the edge of the hook on the electrical box and the edge of the baffle plate as guides
  2. Feed the heater's lead wire through the slit (left) in the electrical box and secure it with the wire clamp on the electrical box.
     1. Exercise care so that the code heater does not peel off.
     2. Route the code heater's lead wire so that it will not be severed or its insulation damaged.

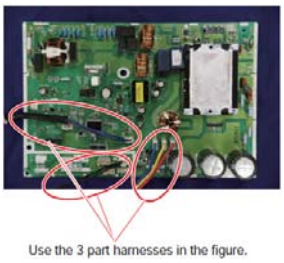




Year-Round Cooling Kit Installation Step 6

Replace PCB board inside of the electrical box with the PCB from kit.

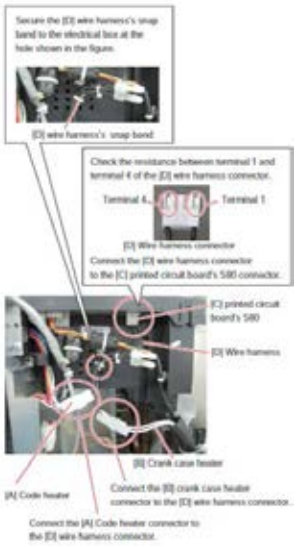
1. Remove the existing PCB.
2. Disconnect the 3 part harness from the existing PCB and connect them to the replacement PCB.
3. Apply the silicon to the replacement PCB.
4. Attach the harnesses removed in action 2 above to the replacement PCB.



Year-Round Cooling Kit Installation Step 7

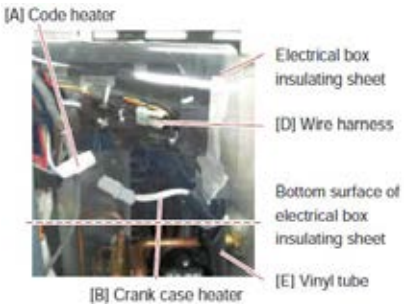
Connect the wire harness to the code heater and the crank case heater.

1. Connect the code heater and crank case heater to the wire harness.
2. Secure the wire harness's snap band to the electrical box.
3. Check the resistance between terminal 1 and terminal 4 of the wire harness connector, which will be connected to the PCB.
   - If the resistance is not 1.8kΩ-2.4kΩ, the is the possibility of an insufficient connection.
4. Connect the wire harness to S80 on the PCB.



Year-Round Cooling Kit Installation Step 7 Cont.

Be sure that the code heater harness, crank case heater harness (portion outside the vinyl tube), and wire harness are all positioned above the bottom surface of the electrical box insulating sheet.

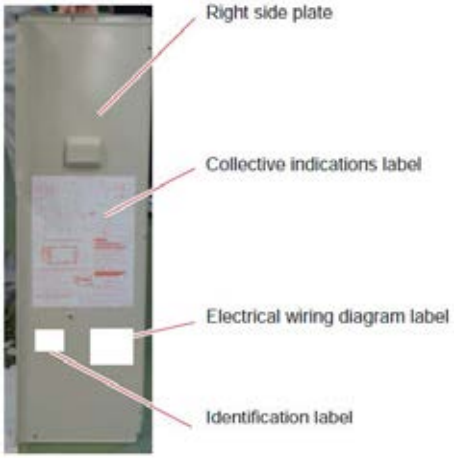


Year-Round Cooling Kit Installation Step 8

Affix the identification label and electrical wiring diagram label to the right side plate.

Reattached the top plate, right side plate, and front plates 1 & 2.

Check whether the unit operates properly by conducting the forced cooling operation.



Slide 133

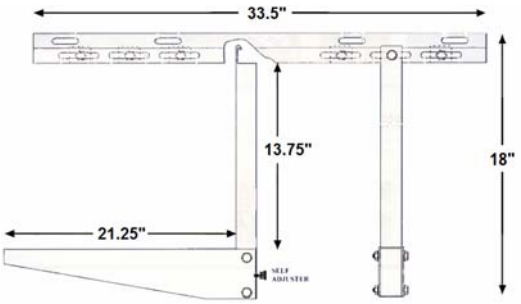
Air Adjustment Grill/Wind Baffle Kits

Kit	Outdoor Unit	Type
KPW038A4	RKN09/12KEVJU RXS09/12KEVJU	Air adjustment grill & Wind baffle
KPW937A4	RXS09/12LVJU	Air adjustment grill & Wind baffle
KPW937C4	RKN15/18/24KEVJU RXN15/18/24KEVJU RXS09/12LVJU	Air adjustment grill & Wind baffle
KPW945A4	RXS15/18/24LVJU	Air adjustment grill & Wind baffle
KPW945A4	2/3/4MXS	Air adjustment grill only, NOT Wind baffle

Wind baffle kits direct discharge air and provide some protection from hail damage.

Slide 134

Wall Mounting Bracket Kit

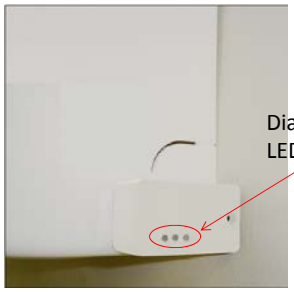


Wall Mounting Bracket Kit
DACA-WB-3

Useful for floor-by-floor installations in multi-floor applications.

500 lb. (max. load)

Float Switch DACA-CFS1



Wall Mount Units (FTXN, FTXS, FTXG, & CTXS models)

- Solid state unit with a fully encapsulated enclosure
- Powered by the system – no batteries needed
- Ability to be clipped directly to the coil with a mounting bracket (provided as standard)
- Onboard LED's for visual indication of the condition of the unit (red, green, yellow)
- Compact size with the ability to fit in confined spaces
- UL listed

Condensate Pump Accessories

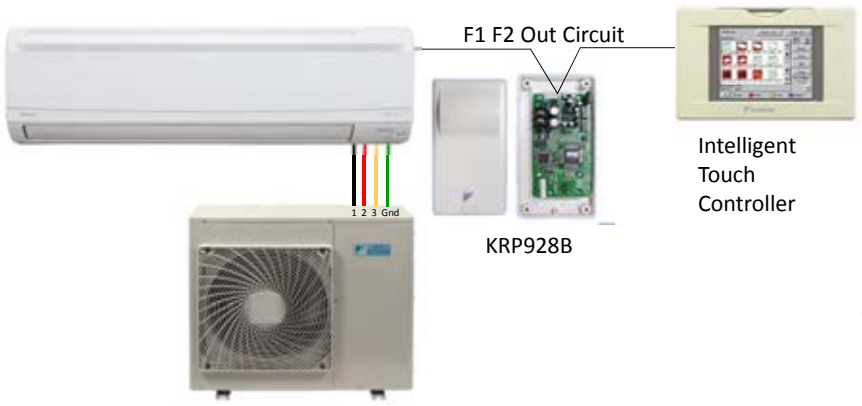
DACA-CP1-1

Plenum Rated Cables

Model Name	Description	Applicable to
DACA-ARCW901P10	IR Receiver Cable, Plenum Rated, 10ft	FDXS09,12DVJU
DACA-ARCW901P25	IR Receiver Cable, Plenum Rated, 25ft	FDXS09,12DVJU
DACA-BRCW901P10	Remote Controller Cable, Plenum Rated, 10ft	BRC944B2-A08
DACA-BRCW901P25	Remote Controller Cable, Plenum Rated, 25ft	BRC944B2-A08

Controls Adapter KRP928B

Simple installation to interface mini split 4-wire communication to VRV D-III Net 2-wire F1 F2



Bottom Plate Heater Kit Accessory

Bottom Plate Heater Kits offer an option for extraordinary applications where a large number of heating operating hours are seen between 17°F and 32°F coupled with large amounts of snowfall.

Bottom Plate \ Applicable Outdoor Unit	RXS09LVJU	RXS12LVJU	RXS15LVJU	RXS18LVJU	RXS24LVJU	RXS30LVJU	RXS36LVJU	RXG09HVJU	RXG12HVJU	RXG15HVJU	RXS09JEVJU	RXS12JEVJU	RXS09DAVJU	RXS12DAVJU	RXS15DVJU	RXS18DVJU	RXS24DVJU	RXS30HVJU	RXS36HVJU	RXN09KEVJU	RXN12KEVJU	RXN09JEVJU	RXN12JEVJU	RXN15KEVJU	RXN18KEVJU	RXN24KEVJU	RXS09DVJU	RXS12DVJU	2MXS18GVJU	3MXS24JVJU	4MXS32GVJU
KEH041A41	■	■	X	X	X	X	X	X	X	X	X	X	■	■	X	X	X	X	X	X	X	X	X	X	X	X	■	■	X	X	X
KEH041A42	X	X	■	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KEH041A43	X	X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	■
KEH041A44	X	X	X	X	X	■	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KEH041A45	X	X	X	X	X	X	X	■	■	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
KEH041A46	X	X	X	X	X	X	X	X	X	X	■	■	X	X	X	X	X	X	X	■	■	■	■	X	X	X	X	X	X	X	X	X
KEH041A47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	■	■	X	X	X	X	X	X
KEH041A48	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	■	■	X	X	X	X	X	X	X	X	X	X	X	■	X	X	X
KEH041A49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	■	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Note ■ = Approved Combination of Bottom Plate Heater with Outdoor Unit

FTXS & CTXS Wireless Remote

Fan Speed Select

Powerful Mode
Max Cool or Heat

Mode Select
AUTO-DRY-COOL-HEAT-FAN

Outdoor Quiet Mode

Intelligent Eye Mode

Timer OFF
Cancel
Timer Select

Backlit LCD Display

System On / Off

Set-Point Temp Up/Down

Vertical Louver Button

Horizontal Louver Button

Timer ON

Standard Remote Controller for all Mini Split Wall Mount Indoor Units (shown with cover open)

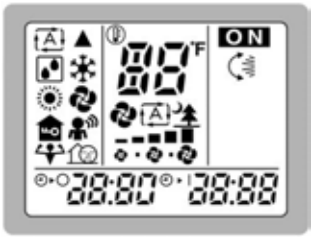
Factory Supplied R/C

ARC452A21:	CTXS07LVJU
	FTXS09LVJU
	FTXS12LVJU
	FTXS15LVJU
	FTXS18LVJU
	FTXS24LVJU
ARC452A9:	CTXS09HVJU
	CTXS12HVJU

Remote Controller Icons

: AUTO
: DRY
: COOL
: HEAT
: FAN

"" ""

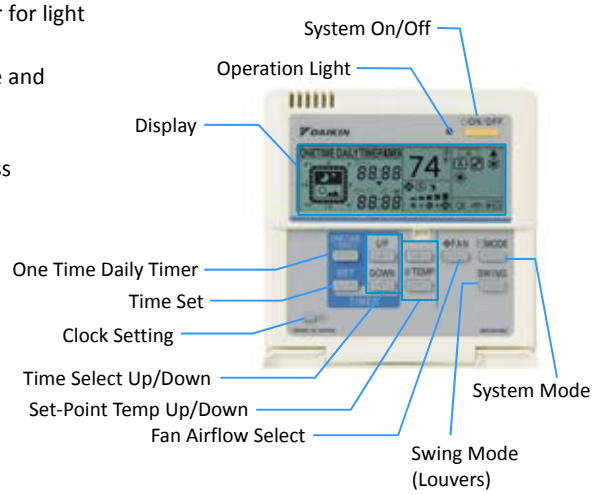


If function is active the icon will appear on screen

(remote controller shown with cover open)

Optional BRC944B2 Wired

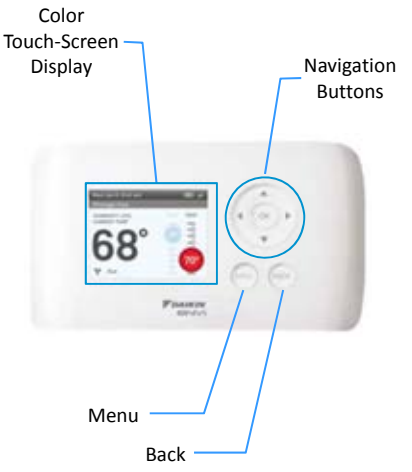
- This controller provides the option of a wall mounted controller for light commercial applications
- For use with all *Daikin* Single and Multi models*
- Controller can be used in conjunction with the wireless remote controller
- Controller Features
  - Start/Stop
  - Operation Mode
  - Temperature Setting (18-32°, 64-90°F)
  - One Time/Daily Timer
  - Fahrenheit or Celsius Temperature Display
  - Fan Speed
  - Airflow Direction



Not Available for FFQ Indoor Unit

Daikin ENVi DACA-TS1-1

The Daikin ENVi thermostat kit includes:

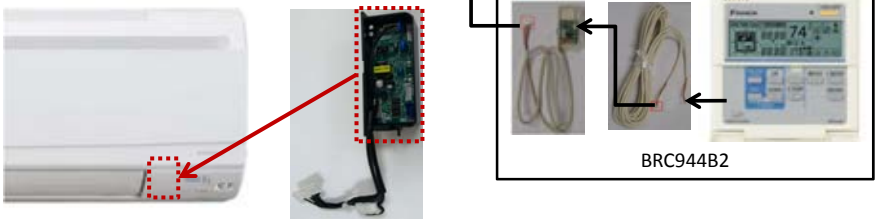


Not Available for FFQ Indoor Unit

KRP980B1 Interface Adapter Kit

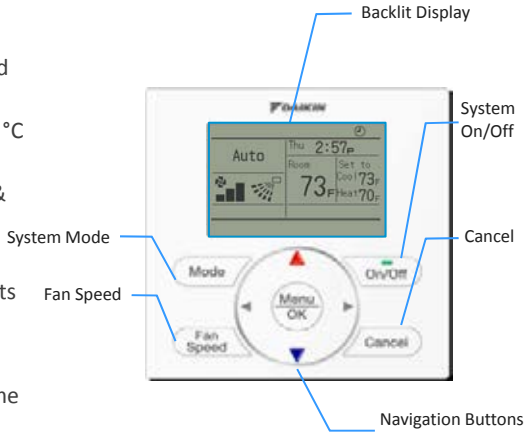
KRP980B1

Use with Daikin ENVi & BRC944B2 for FTXN09/12KEVJU Indoor Units



BRC1E72 Navigation Remote

- Large Backlit LCD Display
- Display configurable to Detailed, Standard, and Simple
- Room temperature display – Day and Time
- Selectable display languages & °F or °C Temp
- Automatic Changeover Heat Pump & Heat Recovery
- Weekly Schedule
- Dual and Single Cool & Heat setpoints
- Independent Setback setpoints
- Selectable 12/24 hour clock display
- Auto-adjustable Daylight Savings Time (DST)
- Max. 16 connectable indoor units
- Optional Face Decals to hide unnecessary or locked out buttons



Summary

- Installation considerations
- Outdoor Unit Site Requirements
- Indoor Unit Site Requirements
- Piping
- Electrical Wiring
- Condensate Accessory Installation
- Controls
- Field Settings
- Start Up
- Troubleshooting
- Accessories

DAIKIN

COMFORT FOR LIFE

Thank You

PT-RLC-1305-PP0-01A

Mini-Split Remote Controllers

Daikin Residential & Light Commercial

DAIKIN

Topics

These Residential/Light Commercial Remote Controllers and Accessories are discussed:

- **ARC452 Wireless Remote**
- **ARC447 Quaternity Wireless Remote**
- **BRC944B2 Optional Wired Remote**
- **BRC7E830/BRC4C82 Optional Wireless Remote**
- **KRP980B1 Interface Adapter Kit**
- **DACA-TS1-1 Daikin ENVi Optional Wired Remote**
- **BRC1E72 Navigation Optional Wired Remote**
- **KRCS01 Remote Sensor**
- **KRP928B Controls Adapter**
- **Plenum Rated Cables**

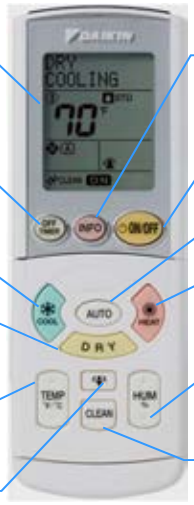
Summary of Controllers

Model	Description	Option	Applicable indoor units
ARC447A3	Wireless Remote Controller		Quaternity
ARC452	Wireless Remote Controller		Mini-Split, Multi-Split, SkyAir FTXS
BRC944B2	Wired Remote Controller	X	Mini-Split, Multi-Split, SkyAir FTXS
DACA-TS1-1	Daikin ENVi Intelligent Thermostat	X	Mini-Split, Multi-Split, SkyAir FTXS
KRP980B1	Interface Adapter for BRC944B2 and DACA-TS1-1	X	Mini-Split FTXN09/12
BRC1E72	Navigation Remote Controller (wired)	X	Multi-Split FFQ
BRC7E830	Wireless Remote Controller	X	Multi-Split FFQ
KRCS01-1B	Remote Sensor	X	Multi-Split FFQ
KRP928BB2S	DIII-NET Adapter	X	Mini-Split, Multi-Split, SkyAir FTXS
	Plenum Rated Cables	X	

Quaternity

ARC447

ARC447 Quaternity



Backlit LCD Display

OFF Timer

Cooling Mode

Dehumidifying Mode

Temperature Set-point

Powerful Mode

Display Temps & Relative Humidity %

System On/Off

Automatic Operation

Heating Mode

Humidity Set-point (+/-5%)

Flash Streamer Operation

Note: Can field set the temperature display for C or F

Wireless Remote

ARC452

ARC452 Wireless Remote

Fan Speed Select

Powerful Mode
Max Cool or Heat

Mode Select
AUTO-DRY-COOL-HEAT-FAN

Outdoor Quiet Mode

Intelligent Eye Mode

Timer OFF
Cancel

Timer Select

Backlit LCD Display

System On / Off

Set-Point Temp Up/Down

Vertical Louver Button

Horizontal Louver Button

Timer ON

Standard Remote Controller for all Mini Split Wall Mount and Slim Ducted Indoor Units

Factory Supplied

ARC452A21:	**CTXS07LVJU**
	FTXS09LVJU
	FTXS12LVJU
	FTXS15LVJU
	FTXS18LVJU
	FTXS24LVJU
ARC452A9:	**CTXS09HVJU**
	CTXS12HVJU

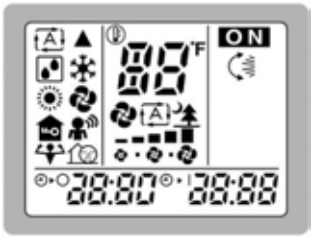
Selection buttons may differ based on unit model

Not Available for FFQ Indoor Unit

ARC452 Icons

: AUTO
: DRY
: COOL
: HEAT
: FAN

“ ” “ ”



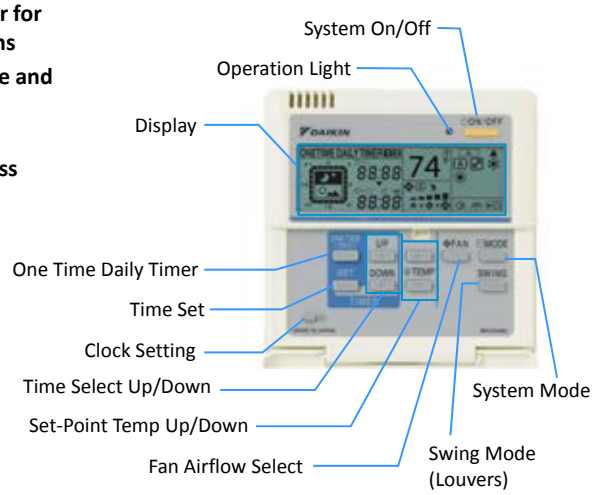
If function is active the icon will appear on screen

Wired Option

BRC944B2

BRC944B2 Wired Option

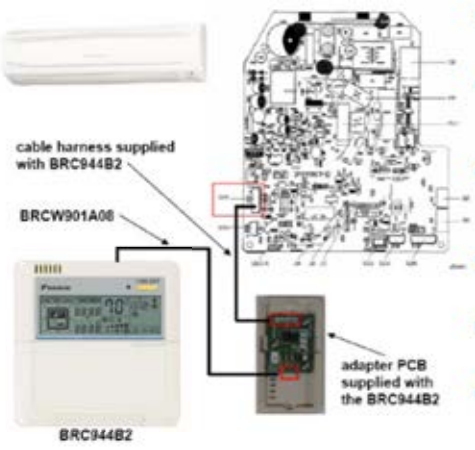
- **This controller provides the option of a wall mounted controller for light commercial applications**
- **For use with all *Daikin* Single and Multi models***
- **Controller can be used in conjunction with the wireless remote controller**
- **Controller Features:**
  - Start/Stop
  - Operation Mode
  - Temperature Setting (18-32°, 64-90°F)
  - One Time/Daily Timer
  - Fahrenheit or Celsius Temperature Display
  - Fan Speed
  - Airflow Direction



Not Available for FFQ Indoor Unit

BRC944B2 Installation

FTXN/FTXS/CTXS/FDXS/CDXS



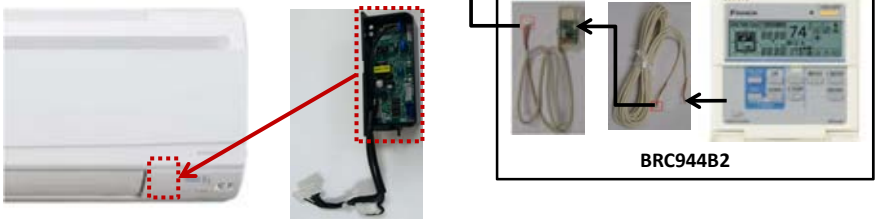
- Mount the remote controller back plate to the wall surface or fixing box with the supplied screws
- Mount the remote controller adapter to the wall surface or the indoor unit with the supplied screws or double-sided tape
- Attach one end of the 5-wire cable to the controller adapter PCB and the other end to the S21 connector on the indoor unit main PCB
- Attach one end of the 4-wire cable to the adapter PCB and the other end to the remote controller PCB
- Replace the upper covers of the controller and the controller adapter PCB into their original positions
- Note - ground terminals not required

FTXN09/12KE requires KRP9801B – see next slide

KRP980B1 Interface Adapter Kit

KRP980B1

Use with Daikin ENVi & BRC944B2 for FTXN09/12KEVJU Indoor Units



Daikin ENVi

DACA-TS1-1

DACA-TS1-1 Daikin ENVi

The Daikin ENVi thermostat kit includes:

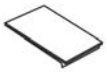

ENVi Thermostat


Trim Plate


DPCA with Power Cable

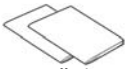

Wiring Harness

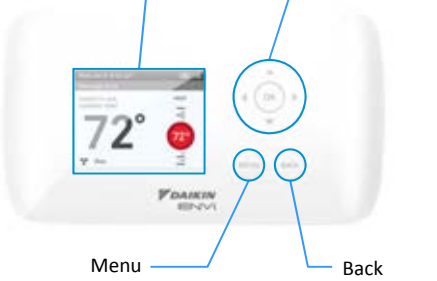

Screws (4) and Drywall Anchors (4)


Double-Sided Adhesive


Wire Ties (2)

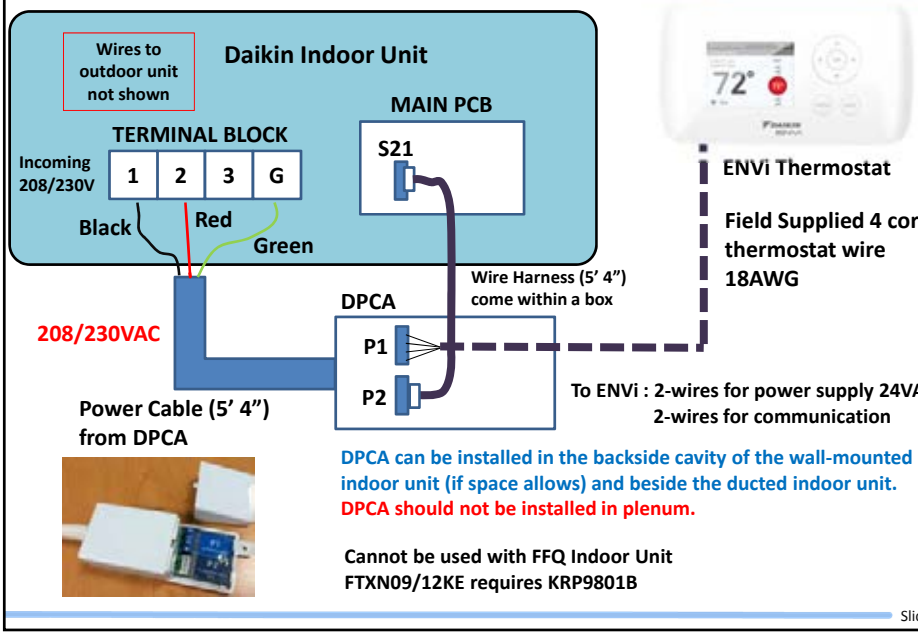

Serial Number Sticker


Installation and User Manuals



Not Available for FFQ Indoor Unit

Daikin ENVi Wiring



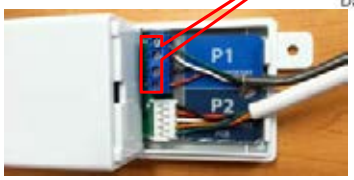
DPCA can be installed in the backside cavity of the wall-mounted indoor unit (if space allows) and beside the ducted indoor unit.
DPCA should not be installed in plenum.

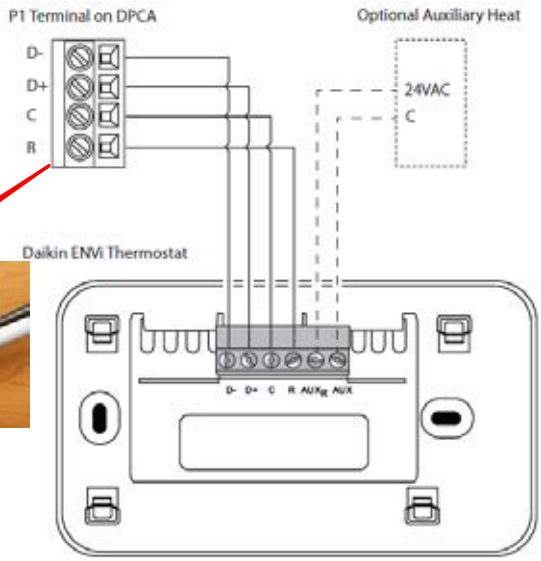
Cannot be used with FFQ Indoor Unit
FTXN09/12KE requires KRP9801B

DPCA and Daikin ENVi Wiring

D-, D+ : 2 wire for RS485 serial communication (Modbus)

C, R : 2 wire for power supply (24VAC)

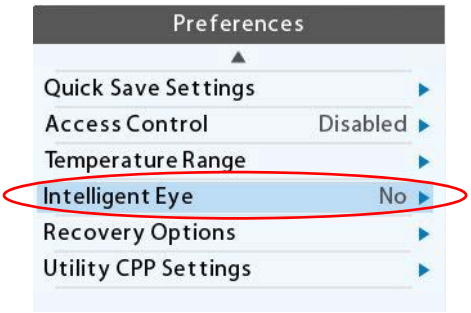




Preferences

Setup Intelligent Eye

- Menu ▸ Preferences ▸ Intelligent Eye ▸ Yes/No
  - Wall mount indoor units, FTXS_LV, CTXS_H, CTXS_LV, and FTXS_LV have an infrared Intelligent Eye sensor that detects room occupancy. It adjust the set point by 3.6°F (2°C) if no movement is detected for 20 minutes in order to save energy (+3.6°F/+2°C if cooling,-3.6°F/-2°C if heating).



System Settings

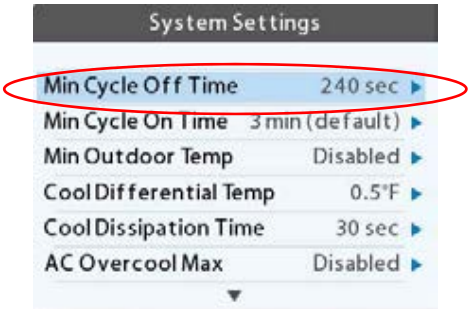
Summary of System Settings

Slide #	Item	Keep Default Value	Default	Range	Increments
25	Min Cycle Off Time	X	240 Sec	240 to 900 sec	30 sec
26	Min Cycle On Time	X	3 Min	1 to 20 min	1 min
27	Min Outdoor Temp	X	Disabled	-10 to 65F	5F
28	Cool Differential Temp		0.5F	0.5 to 3F	0.5F
29	Cool Dissipation Time	X	0 Sec	0 to 900 sec	30 sec
30	AC Overcool Max		Disabled	0.5 to 3F	0.5F
31	Heat Differential Temp		0.5F	0.5 to 3F	0.5F
32	Heat Dissipation Time	X	0 Sec	0 to 900 sec	30 sec
33	Indoor Unit Temp Offset	X	3.5F	0 to 5.5F	0.5F
34	HP to Aux Temp Delta *	X	Auto	1 to 10F	1F
35	HP to Aux Runtime *	X	Auto	10 to 180 min	10 min

*** HP to Aux Temp Delta** and **HP to Aux Runtime** are available when Aux Heater is installed.

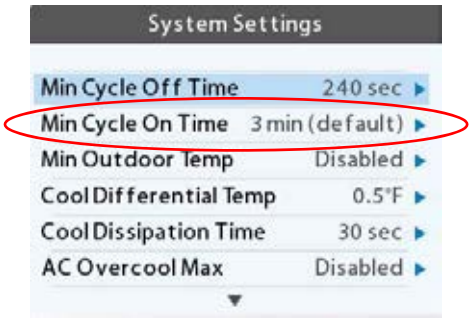
Set Min Cycle Off Time

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Min Cycle Off Time**
  - Min Cycle Off Time Sets the minimum equipment off time between cool cycles: 240 to 900 seconds (default is 240 seconds).



Set Min Cycle On Time

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Min Cycle On Time**
  - Min Cycle On Time Sets the minimum equipment run time in cool mode: 1 to 20 min (default is 3 min).

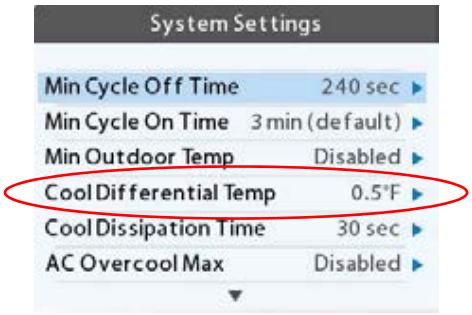


Set Min Outdoor Temp

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Min Outdoor Temp**
  - The Min Outdoor Temp Disables the compressor when the outside air temperature reaches the configured minimum setting. The temperature range is adjustable from -10 to 65 °F (–23.3 to 18.3 °C) or disabled by default.

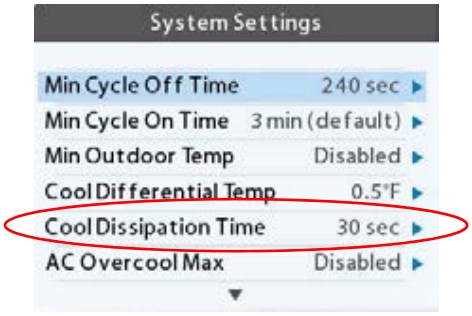
Set Cool Differential Temp

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Cool Differential Temp**
  - The minimum difference between the current temperature and set temperature before the system calls for cool.



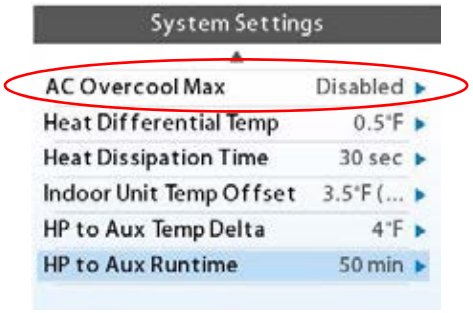
Set Cool Dissipation Time

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Cool Dissipation Time**
  - The amount of time the fan will run after the cool has been turned off.



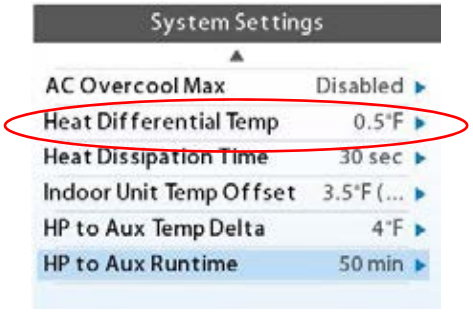
Set AC Overcool Max

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **AC Overcool Max**
  - When using the AC to dehumidify, the setting configures how many degrees below the current set point the thermostat will run in order to reach the dehumidify set point.



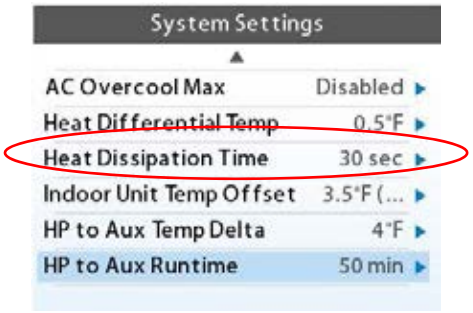
Set Heat Differential Temp

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Heat Differential Temp**
  - The minimum difference between the current temperature and set temperature before the system calls for heat.



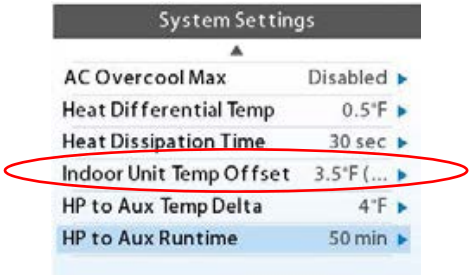
Set Heat Dissipation Time

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Heat Dissipation Time**
  - The amount of time the fan will run after the heat set point has been reached and the call for heat has been turned off.



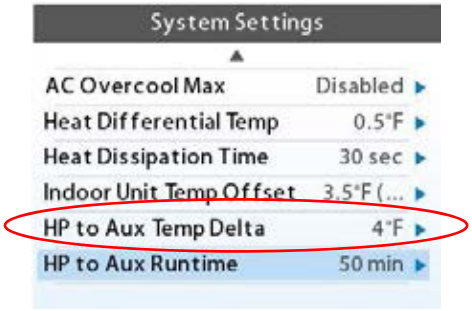
Set Indoor Unit Temp Offset

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **Indoor Unit Temp Offset**
  - Depending on its type, the Indoor Unit uses a temperature offset for the heating set point, taking into consideration the higher sensing temperature. The Daikin ENVi thermostat applies the offset to the set point which is sent to the Indoor Unit.



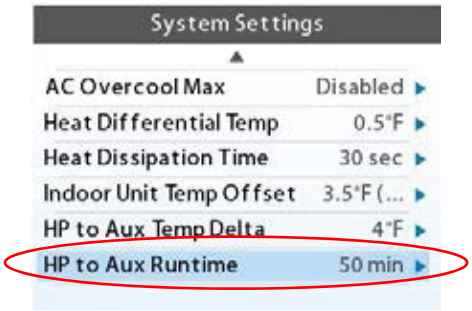
Set HP to Aux Temp Delta

- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **HP to Aux temp Delta**
  - The minimum difference between the current temperature and the set temperature that will activate Aux Heat (regardless if the maximum run time of the heat pump was reached).



Set HP to Aux Runtime

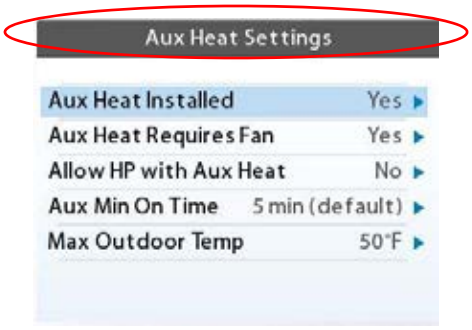
- Menu ▸ Settings ▸ Installation Settings ▸ System Settings ▸ **HP to Aux Runtime**
  - The maximum amount of time the heat pump will run before engaging Aux Heat. Options are Auto (default), Disabled, and 10 to 180 minutes.



Installation Settings

Setup Auxiliary Heat

- Menu ▸ Settings ▸ Installation Settings ▸ **Aux Heat Settings**
  - The Aux Heat Settings configure an auxiliary heat source.



Auxiliary Heat Installed

- Menu ▸ Settings ▸ Installation Settings ▸ Aux Heat Settings ▸ **Aux Heat Installed**
  - To configure the thermostat to control an auxiliary heat source, set Aux Heat Installed to Yes.

Auxiliary Heat Requires Fan

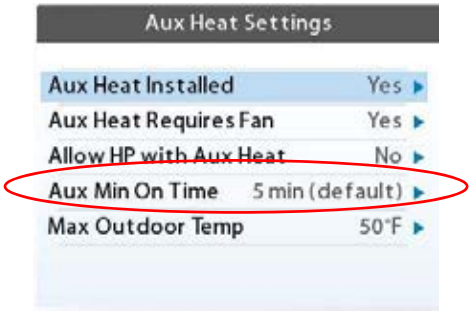
- Menu ▸ Settings ▸ Installation Settings ▸ Aux Heat Settings ▸ **Aux Heat Requires Fan**
  - To configure the thermostat to control the fan when auxiliary heat is used, set Aux Heat Requires Fan to Yes.

Allow HP with Aux Heat

- Menu ▸ Settings ▸ Installation Settings ▸ Aux Heat Settings ▸ Allow HP with Aux Heat
  - To configure the thermostat to control the fan when auxiliary heat is used, set Aux Heat Requires Fan to Yes.

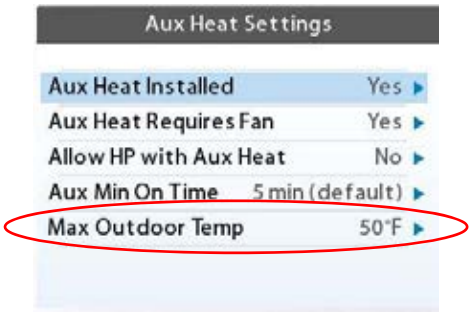
Aux Min On Time

- Menu ▸ Settings ▸ Installation Settings ▸ Aux Heat Settings ▸ Aux Min On Time
  - To set the minimum equipment run time for auxiliary heat: 1 to 20 min (default is 5 min), set select Min On Time.



Configure Max Outdoor Temp

- Menu ▸ Settings ▸ Installation Settings ▸ Aux Heat Settings ▸ Max Outdoor Temp
  - To configure the maximum outdoor temperature threshold, select Max Outdoor Temp

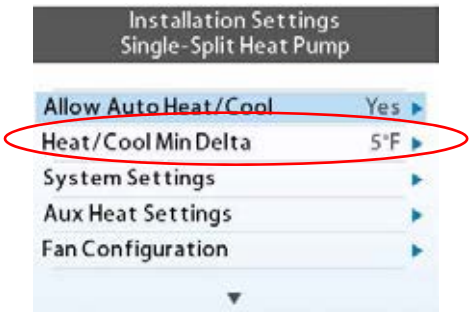


Allow Auto Heat/Cool

- Menu ▸ Settings ▸ Installation Settings ▸ **Allow Auto Heat/Cool**
  - Allows the user to select auto change-over as a system mode

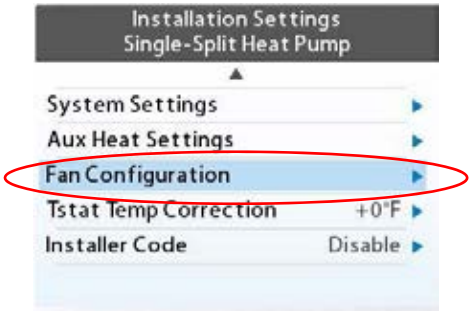
Heat/Cool Min Delta

- Menu ▸ Settings ▸ Installation Settings ▸ **Heat/Cool Min Delta**
  - Sets the minimum difference between the heat mode set temperature and the cool mode set temperature when the system mode is in auto-changeover.



Fan Configuration

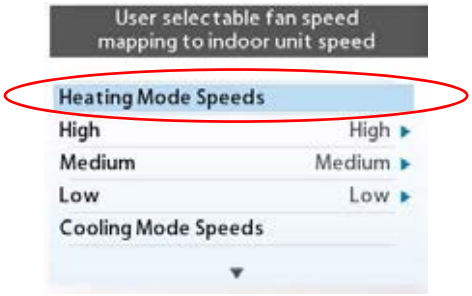
- Menu ▸ Settings ▸ Installation Fan Configuration
  - The Fan Configuration settings map the Indoor Unit's internal fan speeds to the fan speed options displayed to the user on the thermostat.



Keep Default Value

Configure Heating Mode Speeds

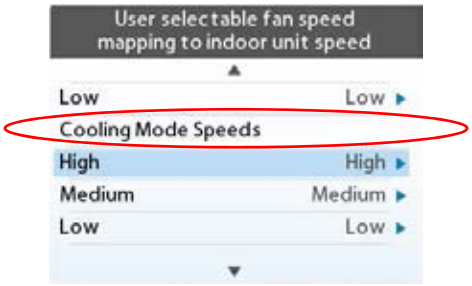
- Menu ▸ Settings ▸ Installation Fan Configuration ▸ **Heating Mode Speeds**
  - Configures fan speed when the user selects High, Medium or Low while the system is in heat mode. The possible speeds for each value are High, Medium High, Medium, Medium Low, and Low.



Keep Default Value

Configure Cooling Mode Speeds

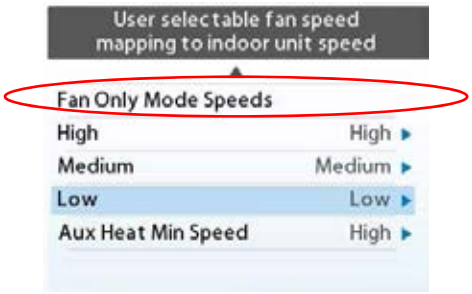
- Menu ▸ Settings ▸ Installation Fan Configuration ▸ **Cooling Mode Speeds**
  - Configures fan speed when the user selects High, Medium or Low while the system is in cool mode. The possible speeds for each value are High, Medium High, Medium, Medium Low, and Low.



Keep Default Value

Fan Only Mode Speeds

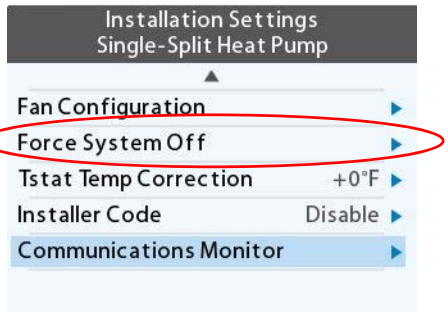
- Menu ▸ Settings ▸ Installation Fan Configuration ▸ **Fan Only Mode Speeds**
  - Configures fan speed when the user selects High, Medium or Low while the system is not actively cooling or heating the room. The possible speeds for each value are High, Medium High, Medium, Medium Low, and Low.



Keep Default Value

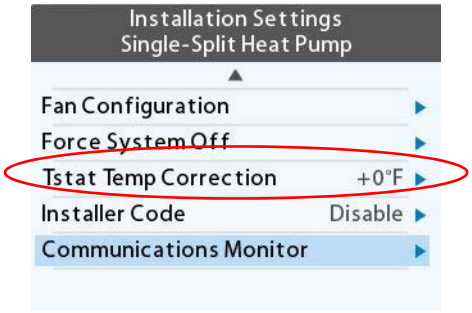
Force System Off

- Menu ▸ Settings ▸ Installation Settings ▸ **Force System Off**
  - Used to clear a latched system error status in the indoor unit by turning off the equipment for five seconds after system servicing. Operation will automatically resume with the previous settings once complete.



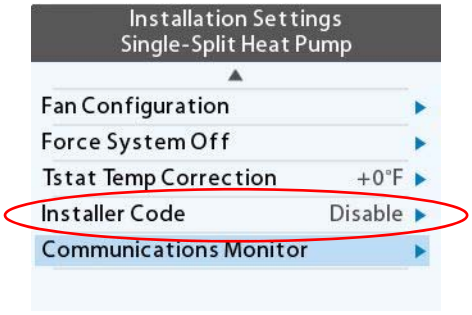
Thermostat Temp Correction

- Menu ▸ Settings ▸ Installation Settings ▸ **Tstat Temp Correction**
  - Program an offset between the real temperature at the thermostat and the displayed temperature.



Installer Code

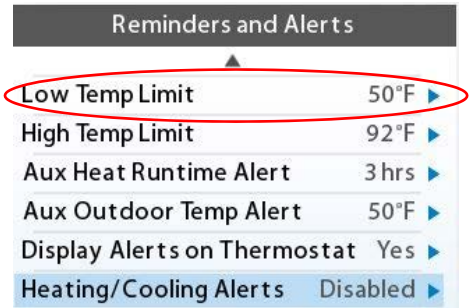
- Menu ▸ Settings ▸ Installation Settings ▸ **Installer Code**
  - To prevent accidental modifications to the installation settings, you can enable the following installer code: 3262. The code is fixed and cannot be changed.



Reminders & Alerts

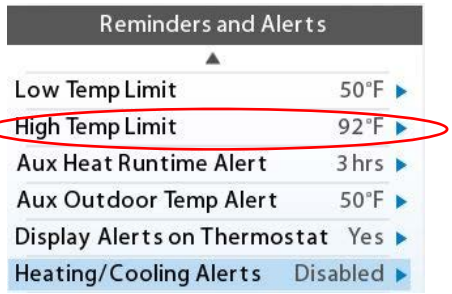
Set Low Temp Alert

- Menu ▸ Reminders and Alerts ▸ **Low Temp Limit**
  - Sets the temperature at which the thermostat will generate a Low Temperature Alert. The range can be:
    - Disabled – No alert will be generated.
    - Enabled - Set temperature range of 35 to 68 °F (1.5 to 20 °C).



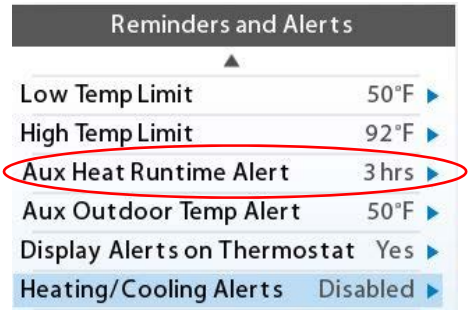
Set High Temp Alert

- Menu ▸ Reminders and Alerts ▸ **High Temp Limit**
  - Sets the temperature at which the thermostat will generate a High Temperature Alert. The range can be:
    - Disabled – No alert will be generated.
    - Enabled - Set temperature range of 60 to 104 °F (15.5 to 40 °C).



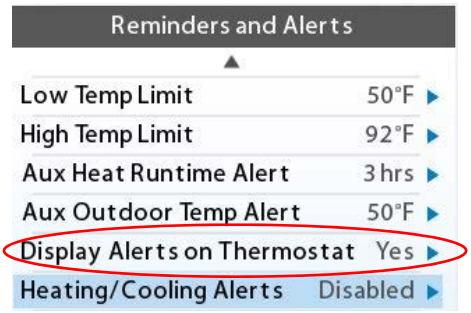
Set Aux Heat Runtime Alert

- Menu ▸ Reminders and Alerts ▸ **Aux Heat Runtime Alert**
  - Sets the time at which the thermostat will generate an Aux Heat Runtime Alert.



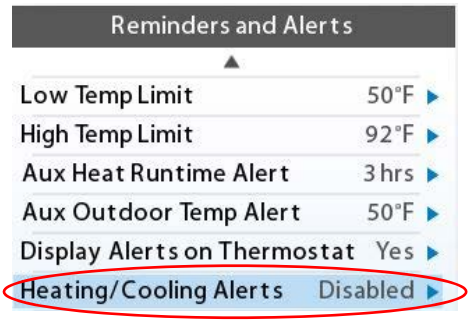
Display Alerts on Thermostat

- Menu ▸ Reminders and Alerts ▸ **Display Alerts on thermostat**
  - Select No if you do not want any of the alerts to be displayed on the Daikin ENVi thermostat screen. Alerts will continue to be displayed on the web portal and sent via email.



Enable Heating/Cooling Alerts

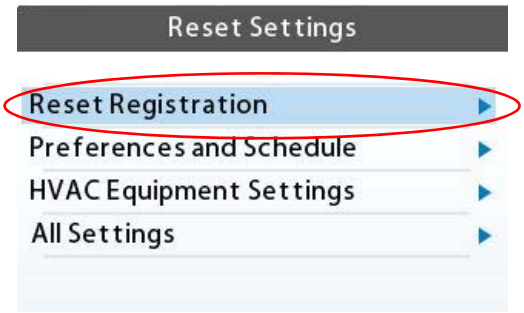
- Menu ▸ Reminders and Alerts ▸ **Heating/Cooling Alerts**
  - Select Disabled to disable alerts for heat/cool error conditions. If disabled, alerts indicating that the system failed to heat or cool will not be appear in the screen, web portal, or emails.



Resetting the Thermostat

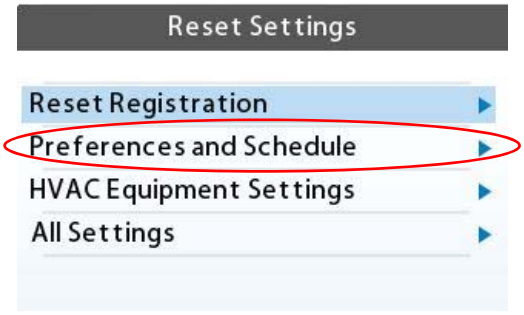
Reset Registration

- Menu ▸ Settings ▸ Reset ▸ **Reset Registration**
  - Resets the connection between the Daikin ENVi thermostat and the user's personalized Web Portal.



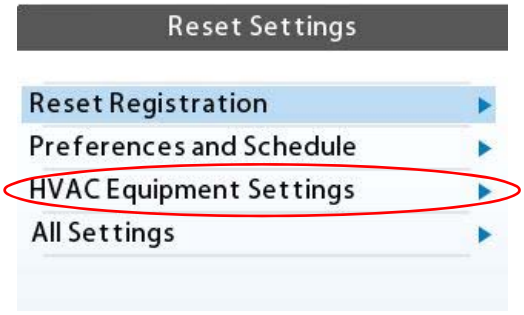
Reset Preferences and Schedule

- Menu ▸ Settings ▸ Reset ▸ **Preferences and Schedule**
  - Resets all preferences, reminders, alerts and programming back to the default state.



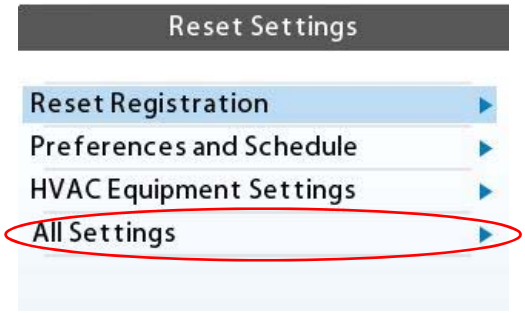
Reset HVAC Equipment Settings

- Menu ▸ Settings ▸ Reset ▸ **HVAC Equipment Settings**
  - Resets the configuration of the Indoor Unit and/or auxiliary heat equipment.



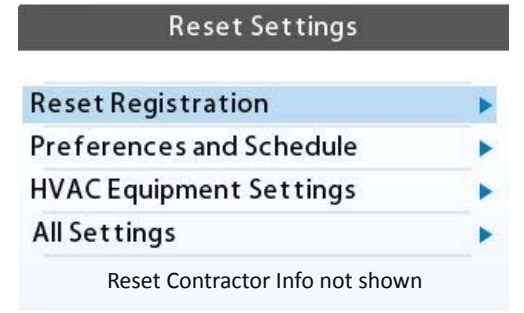
Reset All Settings

- Menu ▸ Settings ▸ Reset ▸ **All Settings**
  - Resets the Daikin ENVi thermostat back to its default factory settings.



Reset Contractor Info

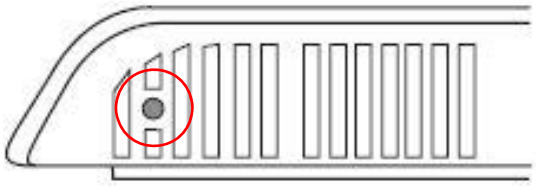
- Menu ▸ Settings ▸ Reset ▸ **Reset Contractor Info**
  - Resets any information about the Contractor who installed the Daikin ENVi thermostat.



Reset Contractor Info not shown

Reset Daikin ENVi Thermostat

- Menu ▸ Settings ▸ Reset ▸ **Reset Contractor Info**
  - You can reboot the Daikin ENVi thermostat by pressing the physical hardware reset button, located through an opening in the bottom left corner of the Daikin ENVi thermostat. Rebooting will not alter programming or configuration options.

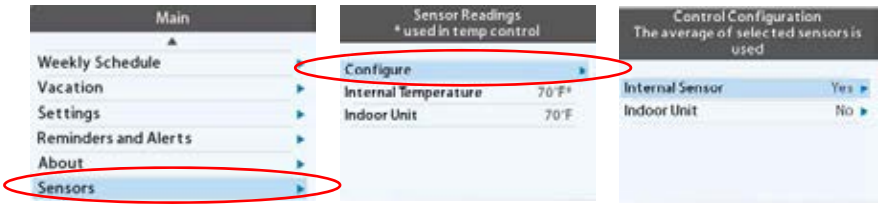


Reset button

Sensors

Configure Sensors

- Menu ▸ Sensors ▸ **Configure**
  - By default, the Daikin ENVi thermostat's Internal Sensor is used for an accurate indication of the room temperature (recommended settings).
  - Enable or disable each sensor by selecting Internal Sensor or Indoor Unit and then selecting Yes or No.



Keep Default Value

Alerts

List of Alerts

Below is a complete list of alerts. Depending on the system configuration, some of these may not apply.

- **Low Temp Alert:** Temperature in the home is too low.
- **High Temp Alert:** Temperature in the home is too high.
- **Heat Not Responding:** The system has failed to heat the home.
- **Cool Not Responding:** The system has failed to cool the home.
- **System Service:** HVAC system due for regular maintenance.
- **Auxiliary Heat Run Time:** Auxiliary heat source is running too often.
- **Auxiliary Outdoor Temperature:** Your auxiliary heat has been called to run when the outdoor temperature exceeds the programmed set point.

List of Alerts Cont.

- **System error, service required:** System error occurred. If the Indoor Unit's status LED is blinking after the error has been corrected, select Settings ▸ Installation Settings ▸ Force System Off to reset the latched error status and turn off the blinking LED.
- **Lost Communication:** Communication with the Indoor Unit has been lost. Check the wiring connections between the DPCA, ENVi thermostat and Indoor Unit. The green LED on DPCA should be on and solid.
  - Upon initial power up of the system communication, this alert may be generated. Wait up 10 minutes for system to initialized before troubleshooting. The alert will be removed automatically once communication has been established.

Registration

Daikin ENVi Registration

The Daikin ENVi must be registered by the home owner after installation. Note that the homeowner must have internet access and a Wi-Fi network to register the thermostat.

Show the home owner how to follow these steps.

- **Menu > Register Thermostat > Continue > WiFi Settings > WiFi Radio**
  - **The Daikin ENVi will use the local WiFi network to connect to www.DaikinENVi.com to complete the registration**
  - **When connected, the Daikin ENVi will display the registration code. Make a note of this code**
- **Using a computer, go to www.DaikinENVi.com**
  - **Click the REGISTER YOUR THERMOSTAT link**
  - **Click the Create a new account link**
  - **Create a personal web portal using the home owner's email address**
  - **Enter the 4 digit registration code**
  - **Return to the Daikin ENVi thermostat and confirm the registration**
  - **Return to the computer and complete the account information and click the Done button**

Registering the ENVi – Step 1

Registering the ENVi – Step 2

Registering the ENVi– Step 3

Registering the ENVi– Step 4

Registering the ENVi – Step 5

Registering the ENVi – Step 6

Registering the ENVi – Step 7

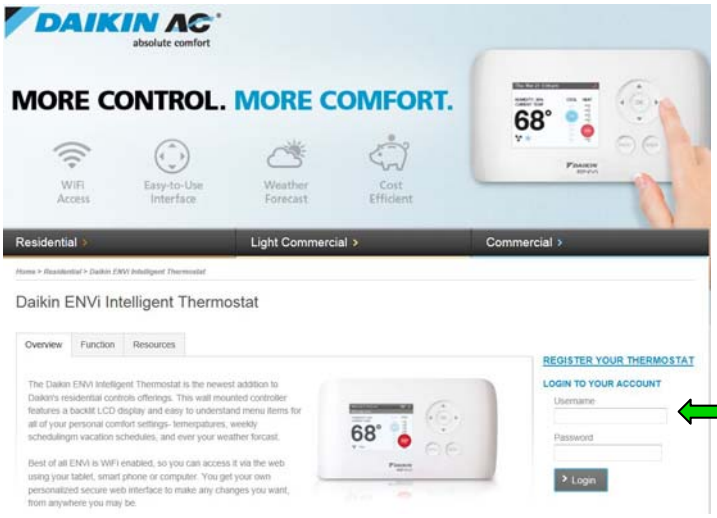
Registering the ENVi – Step 8

Registering the ENVi – Step 8

Registering the ENVi – Step 8

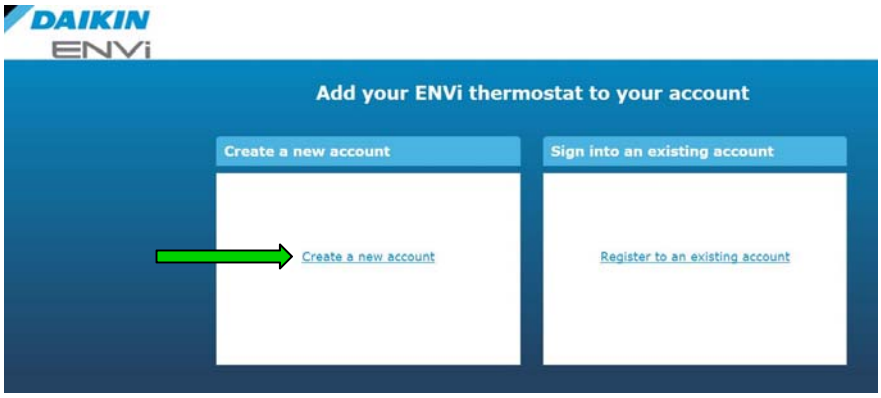
Registering the ENVi – Step 9

Registering the ENVi – Step 10

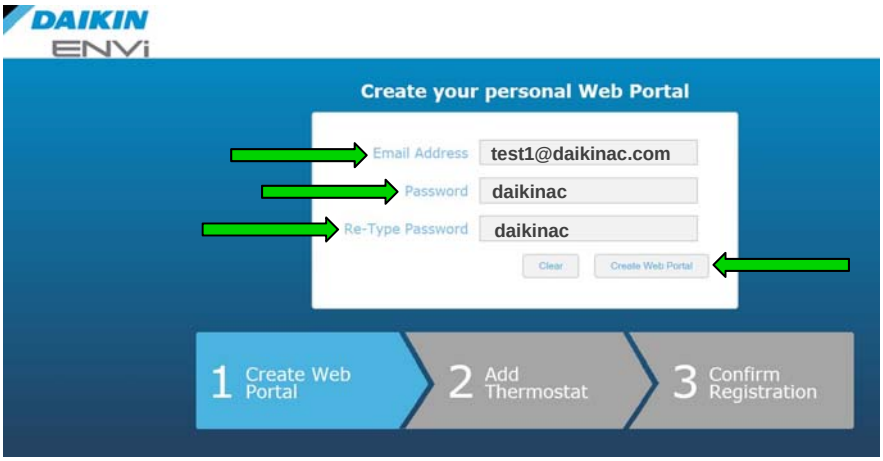


www.DaikinENVi.com

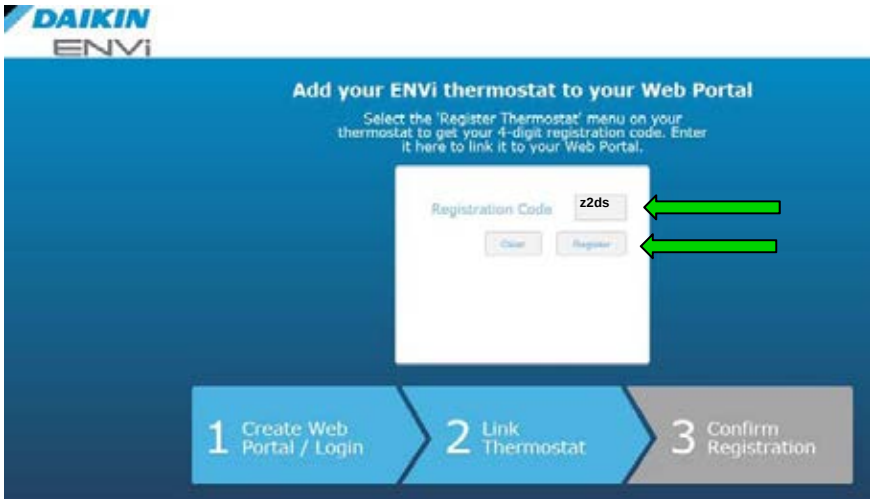
Registering the ENVi – Step 11



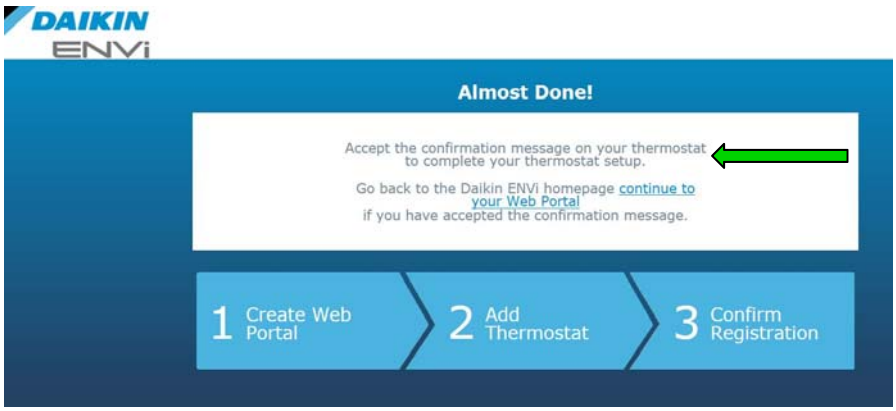
Registering the ENVi – Step 13



Registering the ENVi – Step 14

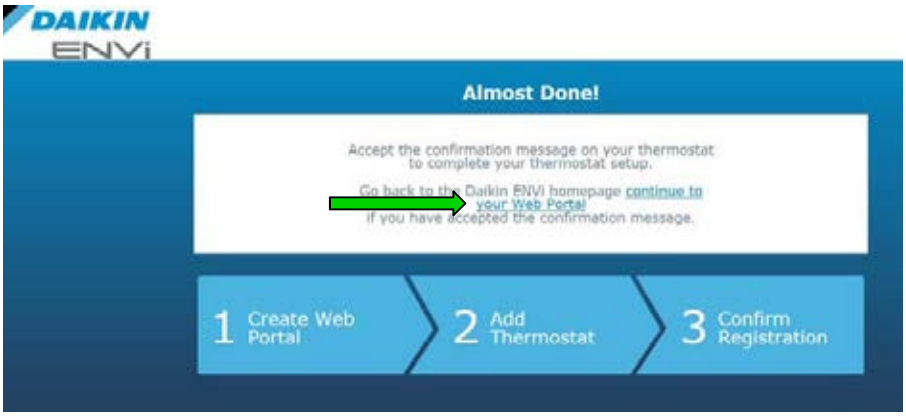


Registering the ENVi – Step 15



Registering the ENVi – Step 15

Registering the ENVi – Step 16



Registering the ENVi – Step 17

Registering the ENVi – Step 17

Privacy Policy:

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You can choose whether to accept cookies by changing the settings of your browser. Typically, by accessing the browser's help feature you can obtain information on how to prevent your browser from accepting all cookies or to notify you when a cookie is being sent. If you choose not to accept these cookies, your experience at our website and other websites may be diminished and some features may not work as intended.

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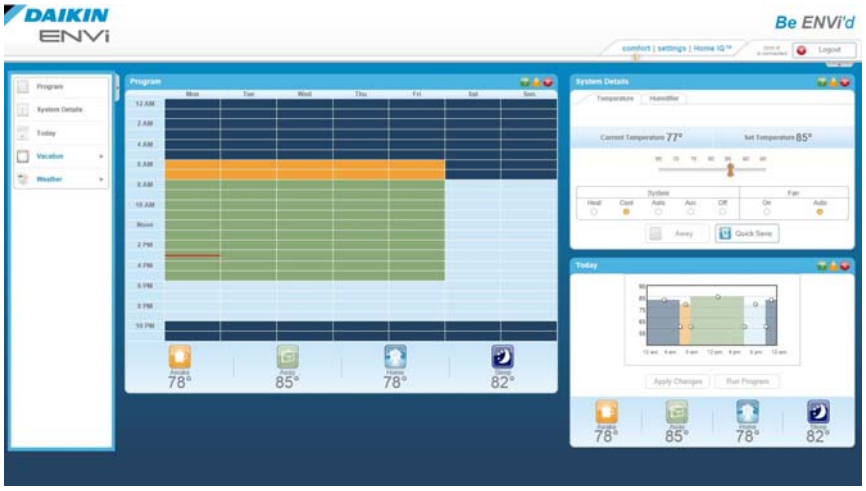
I agree to the terms of the Privacy Policy and the Service Agreement.*

Please notify me of free software upgrades and the latest feature releases.

Done

End-User Web Portal



End-User is re-directed to their personal web-portal upon completing registration.

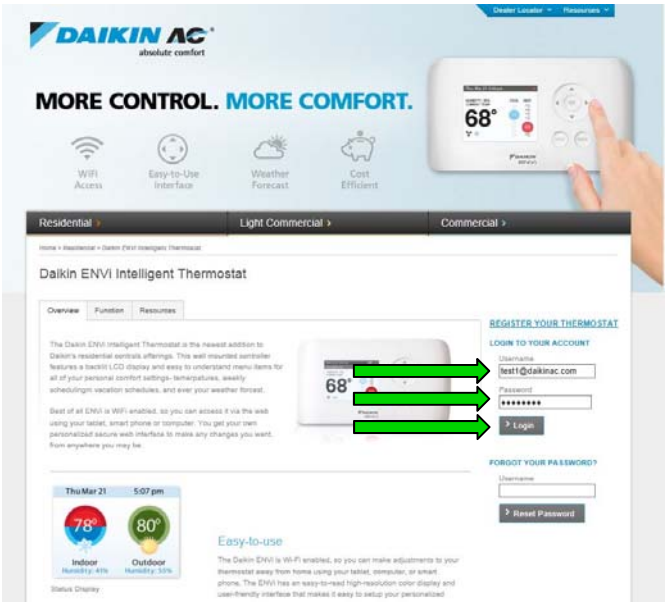
Registering the ENVi – Completed!

User Web Portal

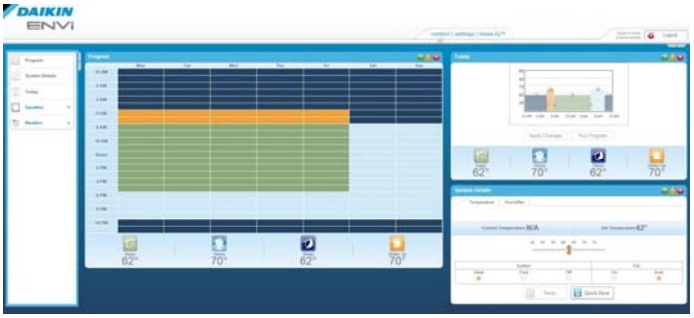
Accessing the Web Portal

User Steps:

1. Enter Username
2. Enter Password
3. Click Login



Web Portal - Comfort Tab



- **Program:** this allows the user to modify the 7-day program, adjust their set-points, fan operation and add new climate periods.
- **System Details:** the user can override the 7-day program, change system mode or change fan operation.
- **Today:** this provides the function to modify the current day program without the need to permanently modify the 7-day program.
- **Vacation:** the user can define a range of dates/times, choose a heat/cool set-point and fan status to override 7-day program.
- **Weather:** provides current day forecast + 4 days in advance.

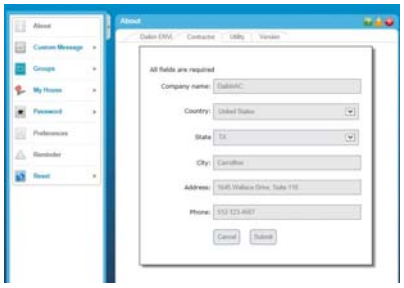
Web Portal - Settings Tab

- **About:** provides information about the product, software version and if linked to a Contractor Portal.
- **Custom Message:** user can send message to thermostat from web portal.
- **Groups:** allows the user to group multiple thermostat's together to share Programs, Preferences, Reminders, etc.
- **My House:** the physical address to which the thermostat has been registered to.
- **Password:** user can change password from here.
- **Preferences:** user can change thermostat preferences from this widget. (e.g. Celsius / Fahrenheit, Hold Action, etc)
- **Reminders:** the user can define what type of alerts and frequency to provide by email, on thermostat or web portal.
- **Reset:** to reset Registration or Programs & Preferences.

Web Portal - HomeIQ™ Tab

Home IQ Details: a month over month / year or year direct comparison of heating & cooling runtimes
Home IQ Insights: a month over month summary of HVAC runtimes and what variables had influence on energy usage
Reports: provides HVAC runtime operation for current day and the previous 2-days

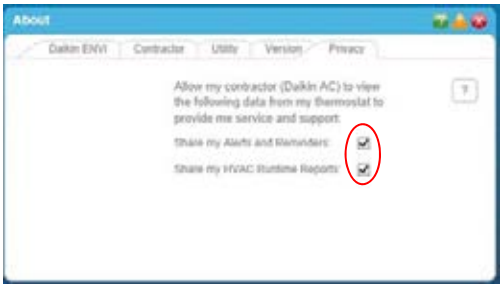
End-User Privacy Setting



The contractor will link the customer's Daikin ENVi thermostat to their Contractor Portal. Then the customer will see the contractor information at the Settings tab > About widget > Contractor tab.

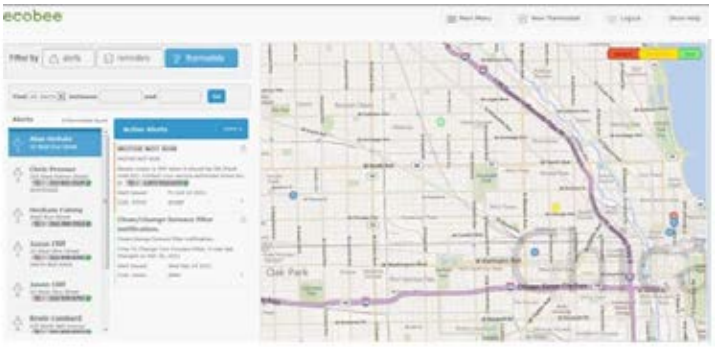
From the Privacy tab the customer can select the following options and allow their contractor to view :

- Share my Alerts and Reminders
- Share my HVAC Runtime Reports



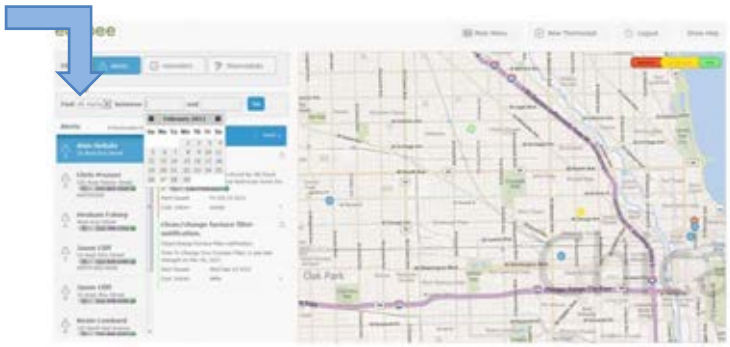
Contractor Web Portal

Contractor Portal – Filter By



- **Alerts tab**. Clicking on the alerts tab will retrieve all the thermostats linked to your contractor account, sorted by the number of alerts not yet acknowledged by you.
- **Reminders tab**. Clicking on the reminders tab will retrieve a list of all of the thermostats linked to your account, sorted by the number of impending service reminders over the next month.
- **Thermostats tab**. Clicking on the thermostats tab will retrieve a list of all of the thermostats linked to your account, sorted by customer name in alphabetical order.

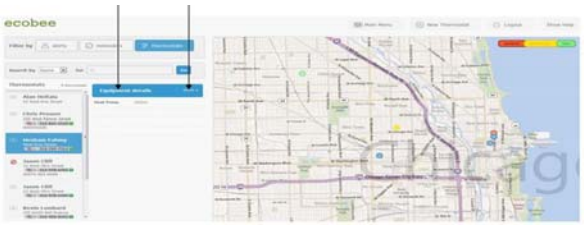
Contractor Portal – Search By



The Search by or Find section allows the contractor to further refine their search.

- **Alerts**. If you have selected to filter your search by alerts, you can select the alert severity to date range to further refine the search.
- **Reminders**. If you have selected to filter your search by reminders, you can select reminder types or date range to further refine the search.
- **Thermostats**. If you have selected to filter your search by thermostats, you can enter a street address, phone number, customer name, or serial number to further refine the search.

Contractor Portal – Detail Pane



Note: when Auxiliary Heat has been configured it will be indicated in the Contractor Portal as "Furnace".

The detail pane displays all relevant details for a selected thermostat from your populated search list. Once you have selected a thermostat, click on the "more" button for additional views:

- **Alerts**. This view includes a list of the alerts associated with the selected thermostat which have not yet been acknowledged by you.
- **Archived Alerts**. This view includes a list of the alerts associated with the selected thermostat that have been acknowledged by you in the past, for historical reference.
- **Reminders**. This view includes a list of all upcoming service reminders associated with a selected thermostat. You have the ability to manually edit an HVAC Service Reminder, however all other equipment reminders are read-only.
- **Equipment Details**. Editable by you, this view includes the serial number of the selected thermostat, as well as the make, model, and serial number of the customer's HVAC equipment.
- **Customer Information**. This view provides you with detailed customer information associated with the selected thermostat including first/last name, address, phone number, thermostat serial number, alerts, reminders, reports, and connectivity status.
- **HVAC Reports**. This view enables you to see your selected thermostat's HVAC equipment report graph, dating back 2 days.

Contractor Portal – Map View

The interactive Map View displays all of the thermostats linked to your contractor account by color-coded markers on the map, as specified by your search parameters. When a thermostat is selected in the Thermostat List, the map will automatically adjust itself so that the selected thermostat is in the center of the map. An informational pop-up will also appear, displaying the customer name, address, phone number, and the thermostat serial number of the selected thermostat.

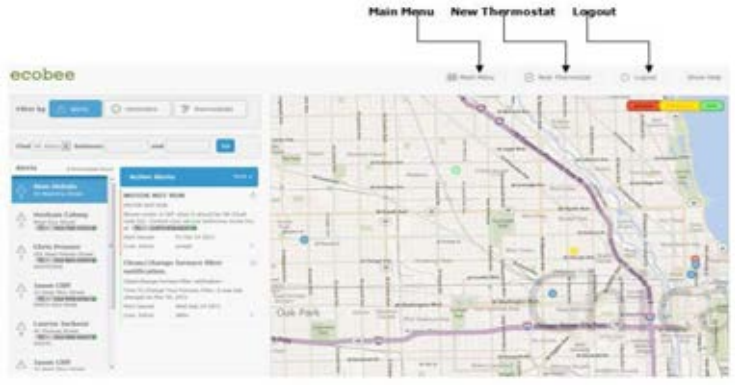
- **Color Schemes**: A color-coding scheme will identify thermostats with alert or reminders by severity (red = severe, yellow = moderate, green = low). A default blue marker will represent thermostats that have no active alerts or reminders.
- **Multiple Selection Tool**: If the Thermostat List is set to filter by reminders, you have the ability to select an unlimited number of thermostats in any given area.

Contractor Portal – Quick Access Buttons

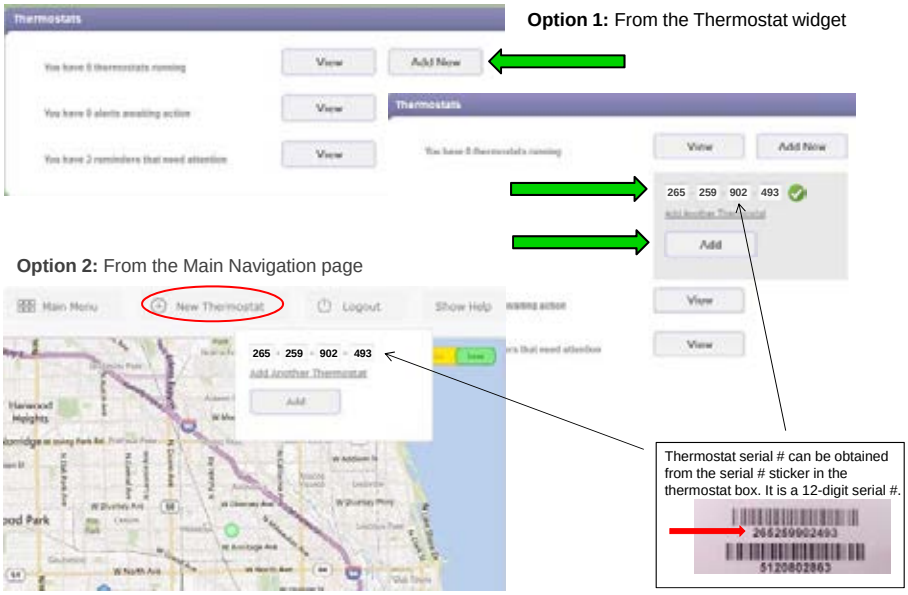
Main Menu: Clicking on the Main Menu button will return you to your Contractor Web Portal dashboard.

New Thermostat: By clicking on the New Thermostat button, you have the ability to link new thermostats to your account. Simply type in the 9-digit serial number of the thermostat you would like to link to your account. To add another thermostat, click “Add Another Thermostat”, and when you are finished adding thermostats, click Add.

Logout: Click on the Logout button to end your Contractor Web Portal session.



Contractor Portal - Add Thermostats



Option 1: From the Thermostat widget

Option 2: From the Main Navigation page

Contractor Registration

- Please go to https://www.ecobee.com/contractors/account/, and fill the application form shown below.
- Once it is approved you will receive an e-mail confirmation, then you can access to a Contractor portal.
  - End user can see your company on the preferred contractor list from User Web portal

Wireless Option

BRC7E830/BRC4C82

BRC7E830/BRC4C82 Option

Handheld Wireless Remote Controller

- Wireless Remote Controllers are provided as “kits”
- Temperature is setpoint display
- Wireless Controllers only communicate with the fan coil when they are pointed at the receiver and a button is pressed
- Listen for a “Beep” or “Beep Beep” for confirmation

Available for FFQ Only, must be purchased separately

BRC7E830/BRC4C82 Field Settings

- To enter the Field Setting Mode press the TEST button for 5 sec. The display will change to “00”
- Press the MODE button until the desired first Code No. appears
- Press the UP button to set the first number
- Press the DOWN button to set the second no.
- Press RESERVE button to lock in the field setting
- Listen for the “Beep Beep”
- Press TEST button <u>twice</u>

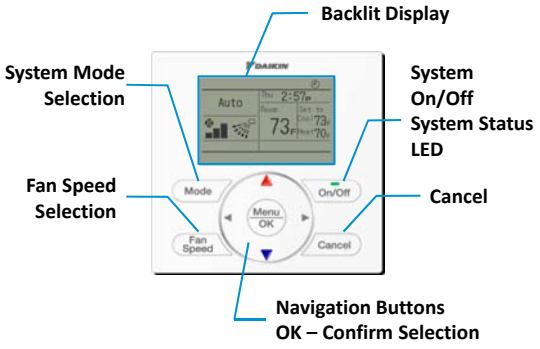
Available for FFQ Only, must be purchased separately

Navigation Remote

BRC1E72

BRC1E72 Navigation Remote

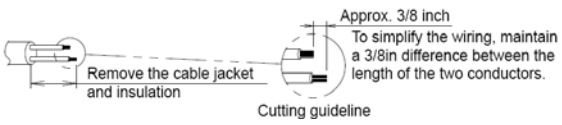
- Large Backlit LCD Display
- Display configurable to Detailed, Standard, and Simple
- Room temperature display – Day and Time
- Selectable display languages & °F or °C Temp
- Automatic Changeover Heat Pump & Heat Recovery
- Weekly Schedule
- Dual and Single Cool & Heat setpoints
- Independent Setback Setpoints
- Selectable 12/24 hour clock display
- Auto-adjustable Daylight Savings Time (DST)
- Max. 16 connectable indoor units
- Optional Face Decals to hide unnecessary or locked out buttons

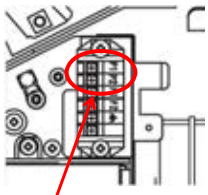


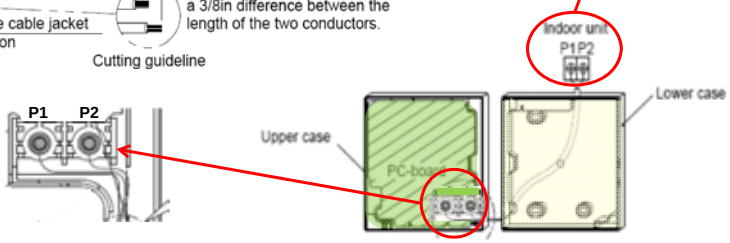
Available for FFQ Only, must be purchased separately

Wiring & Mounting

- Determine the proper controller location
  - Avoid direct sunlight
  - Avoid outside walls
- Separate controller upper & lower case
- Install controller on a solid wall surface
  - Electrical box – 2x4 Single or 4x4 Double gang box
  - Screws and drywall anchors
- Cut control wire conductor lengths with a 3/8" difference – Remove 2" of outer jacket







Available for FFQ Only, must be purchased separately

Display Backlight Function

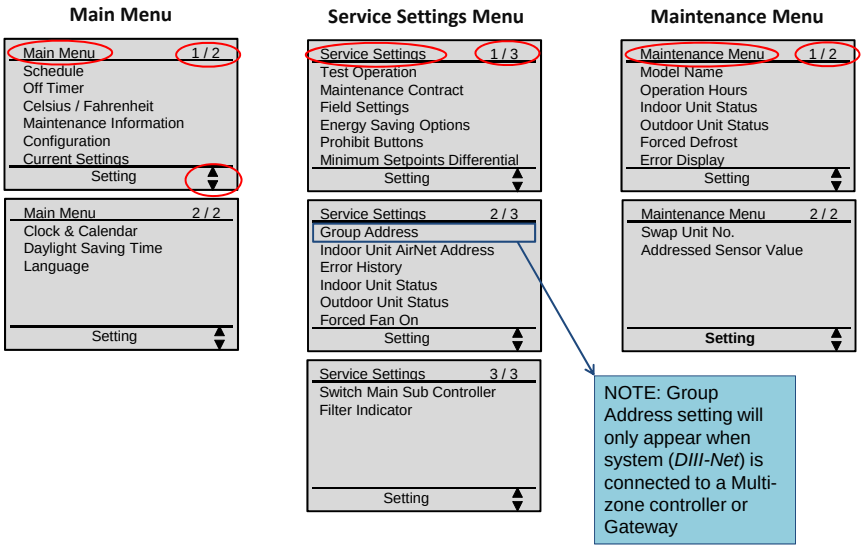
- First button pressed enables backlight only
  - All Function Buttons are then fully enabled
- Backlight automatically turns off 30 seconds after the last button is pressed
- Backlight must be illuminated for any of the function buttons to be enabled
- When two remote controllers are used to control one indoor unit or a group of indoor units, only the first controller in use will have a functioning backlight.

LCD Display Menus

- There are 4 main display categories
  - Main Display
  - Main Menu
  - Service Settings Menu
  - Maintenance Menu
- Backlight must be ON before button functions are enabled
- Main Menu – Press Menu/OK one time
- Service Settings – Press & Hold Cancel (5 sec.)
- Maintenance Menu – Press & Hold Cancel while in Service Settings Menu (5 sec.)

Available for FFQ Only, must be purchased separately

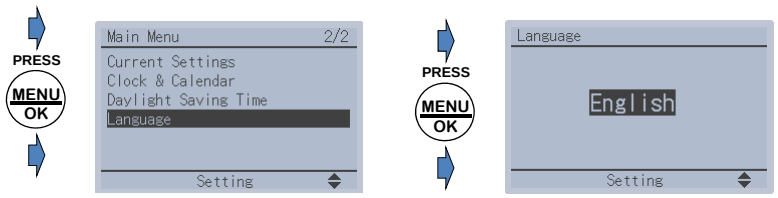
Configuration & Programming Menus



Main Menu

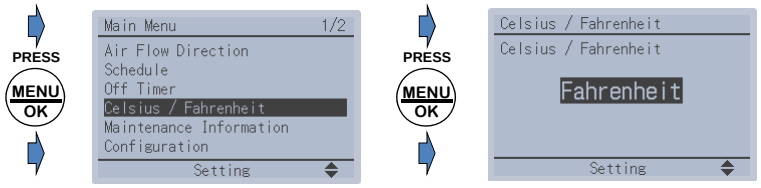
Language

- Main Menu ▸ Language
- English (Default) - French / Spanish selectable

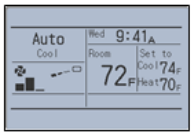
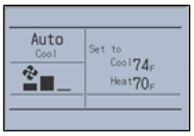
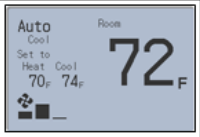


Fahrenheit to Celsius

- Main Menu ▸ Celsius / Fahrenheit
- Fahrenheit (default) – Celsius selectable

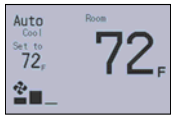
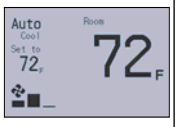
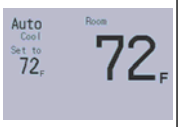


Display Mode

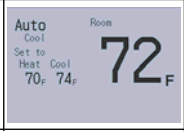
Display Mode	Detailed	Standard	Simple
Display image			
On/Off status on LED (LED blinks when an error is occurred)	X	X	X
Mode	X *1	X *1	X *1
Setpoint (Dual/Single)	X *2	X *2	X *2
Room temperature	X		X
Fan speed	X *3	X *3	X *3
Air flow direction (when a louver is available)	X		
Day and Time	X *3		
Status icon	X *3	X *3	
Key lock icon	X	X	
Error massage	X	X	

*1. OFF can be displayed instead of the operation mode while the unit is turned off with the field setting
*2. Can be removed from the display while the unit is turned off with a field setting
*3. Can be removed from the display with a field setting

Single Set Point Display Mode w/Face Decal

	Theme	Everything	No Mode Change	Fan Speed Fixed
	LCD Display Image			
	Optional Face Decal Face Decal can be applied to Simple, Detailed, and Standard display mode			
	M: Mandatory, O: Optional setting	BRC1E72RMF	BRC1E72RF	BRC1E72RM
M	Display mode - Simple (Main menu)	X	X	X
M	Display item - Room Temp (Main menu)	X	X	X
M	Single setpoint (Srv Menu → Min Setpoint Diff - Single SP)	X	X	X
M	Prohibit Menu/OK and Cancel buttons (Special sequence required)	X	X	X
M	Mode button prohibit (Srv menu → Prohibit functions → Prohibit button)		X	
M	Fan icon display off (Field Setting 1b-15-02) Fan button also prohibited			X
O	Off display instead of Mode while the unit is off (Field setting 1b-13-02)	X	X	X
O	Erase setpoint display while the unit is off (Field setting 1b-12-02)	X	X	X

Dual Setpoint Display Mode w/Face Decal

	Theme	Everything	No Mode Change	Fan Speed Fixed
	LCD Display Image			
	Optional Face Decal Face Decal can be applied to Simple, Detailed, and Standard display mode			
	M: Mandatory, O: Optional setting	BRC1E72RMF2	BRC1E72RF2	BRC1E72RM2
M	Display mode - Simple (Main menu)	X	X	X
M	Display item - Room Temp (Main menu)	X	X	X
M	Dual setpoint (Srv Menu → Min Setpoint Diff - 0 to 7F)	X	X	X
M	Prohibit Menu/OK and Cancel buttons (Special sequence required)	X	X	X
M	Mode button prohibit (Srv menu → Prohibit functions → Prohibit button)		X	
M	Fan icon display off (Field Setting 1b-15-02) Fan button also prohibited			X
O	Off display instead of Mode while the unit is off (Field setting 1b-13-02)	X	X	X
O	Erase setpoint display while the unit is off (Field setting 1b-12-02)	X	X	X

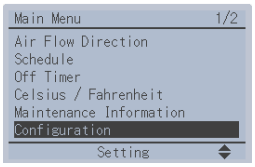
Optional Face Decals

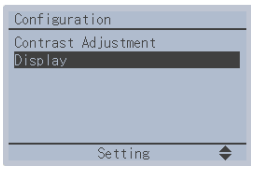
- Single Setpoint Face Decals

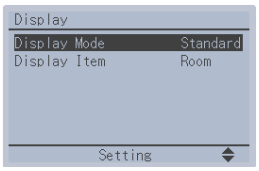
- Dual Setpoint Face Decals

Display Mode

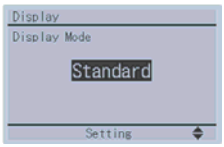
- Main Menu ▸ Configuration ▸ Display ▸ Display Mode - Standard

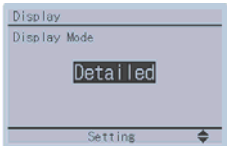






Scroll to select, then press the OK button on each screen.

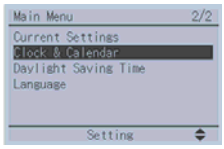


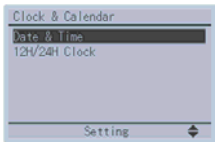


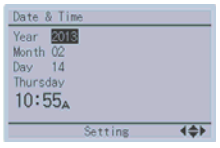
Scroll through the 3 display mode options to select,
then press the OK button.

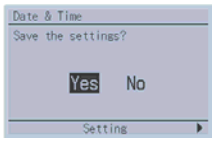
Date & Time

- Main Menu ▸ Clock & Calendar ▸ Date & Time









Scroll to select, then press the OK button on each screen.

Clock Format

- Main Menu ▸ Clock & Calendar ▸ 12H/24H Clock

Scroll to select, then press the OK button on each screen.

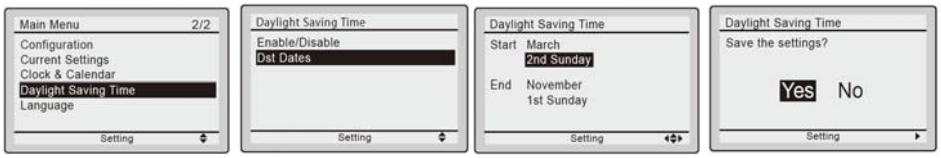
Daylight Savings Time

- Main Menu ▸ Daylight Savings Time ▸ Enable/Disable

Scroll to select, then press the OK button on each screen.

Set DST Dates

- Main Menu ▸ Daylight Savings Time ▸ Enable/Disable

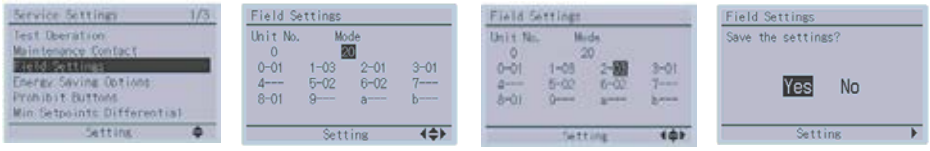


Scroll to select, then press the OK button on each screen.

Service Settings Menu

Field Settings

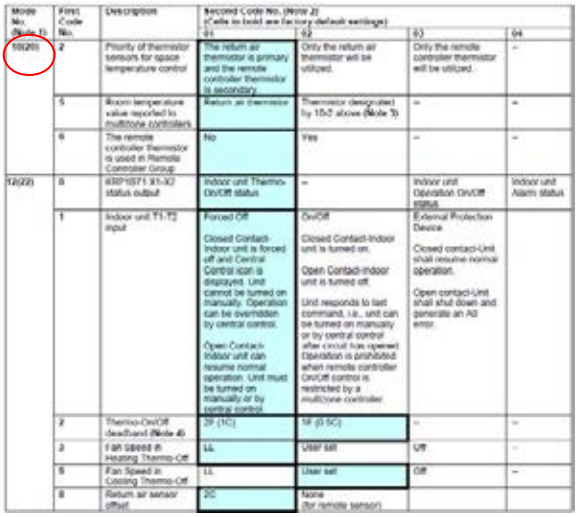
- Service Settings Menu ▸ Field Setting



Scroll to select, then press the OK button on each screen.

Field Settings Table Explanation

- There are two Modes for each setting; “Group” & “Individual”
- The first set of 2-digit numbers refers to Group and Individual, Group is the first number & Individual is in the parenthesis
- “Group ##” is used if there is only one indoor unit per Remote Controller or the setting you chose is intended for all indoor units being controlled by the same Remote Controller
- “Individual (##)” is used when there is more than one indoor unit being controlled by one Remote Controller and the settings being programmed are intended for one of the indoor units in the group



Mode No. (Note 1)	First Code No.	Description	Second Code No. (Note 2) (Cells in bold are factory-default settings) 01	02	03	04
10(20)	2	Priority of thermistor sensors for space temperature control	The return air thermistor is primary and the remote controller thermistor is secondary.	Only the return air thermistor will be utilized.	Only the remote controller thermistor will be utilized.	-
	5	Room temperature value reported to multizone controllers	Return air thermistor	Thermistor designated by 10-2 above (Mode 1)	-	-
	6	The remote controller thermistor is used in Remote Controller Group	No	Yes	-	-
12(22)	0	ARP16T1 X1-X2 status output	Indoor unit Thermo-On/Off status	-	Indoor unit Operation On/Off status	Indoor unit Alarm status
	1	Indoor unit T1-T2 input	Forced Off Closed Contact- Indoor unit is forced off and Central Control icon is displayed. Unit cannot be turned on manually. Operation can be overridden by central control. Open Contact- Indoor unit can resume normal operation. Unit must be turned on manually or by central control.	On/Off Closed Contact-Indoor unit is turned on. Open Contact-Indoor unit is turned off. Unit responds to last command, i.e., unit can be turned on manually or by central control after circuit has opened. Operation is prohibited when remote controller On/Off control is restricted by a multizone controller.	External Protection Device Closed contact-Unit shall resume normal operation. Open contact-Unit shall shut down and generate an A9 error.	
	2	Thermo-On/Off deadband (Note 4)	2F (1C)	1F (0.5C)	-	-
	3	Fan speed in Heating Thermo-Off	LL	User set	Off	-
	5	Fan Speed in Cooling Thermo-Off	LL	User set	Off	-
	8	Return air sensor offset	2C	None (for remote sensor)		

Indoor Unit Field Settings

EXAMPLE: Field Setting for assigning the room temperature sensor

Mode No. (Note 1)	First Code No.	Description	Second Code No. (Note 2) (Cells in bold are factory default settings) 01	02	03	04
10(20)	2	Priority of thermistor sensors for space temperature control	The return air thermistor is primary and the remote controller thermistor is secondary.	Only the return air thermistor will be utilized.	Only the remote controller thermistor will be utilized.	--
	5	Room temperature value reported to multizone controllers	Return air thermistor	Thermistor designated by 10-2 above (Note 3)	--	--
	6	The remote controller thermistor is used in Remote Controller Group	No	Yes	--	--

Field Setting Availability by Indoor Unit Type

Availability of Indoor Unit Field Settings (Control Related)

As of 07/31/2013

Mode No.	10				12						
First Code No.	2		5	6	0	1	2 (****)	3		6	8
Second Code No.	01/02	03	01/02	01/02	01/03/04	01/02/03	01/02	01/02	03	01/02/03	01/02
FXSQ_MVJU	X	X***	X***	X	X	X	X (02)	X	X***	X**	n/a
FXMQ_MVJU	X	X**	X**	X	X	X	X (02)	X	X**	X**	n/a
FXMQ72/96MVJU	X	X	X	X	X	X	X (02)	X	X	X	n/a
FXMQ_PVJU FBQ_PVJU	X	X	X	X	X	X	X (02)	X	X	X	n/a
FXDQ_MVJU	X	X	X	X	X	X	X (02)	X	X	X *	n/a
FXTQ_PVJU FTQ_PAVJU FTQ_PBVJU	X	X	X	X	X	X	X (02)	X	X	X	n/a
BEQ_MVJLR1 (FXOQ)	X	X	X	X	X	X	X (02)	X	X	X**	n/a
FXLQ_MVJU	X	X**	X**	X	X	X	X (02)	X	X**	X**	n/a
FXNQ_MVJU	X	X**	X**	X	X	X	X (02)	X	X**	X**	n/a
FXAQ_MVJU FAQ_MVJU FAQ_PVJU	X	X**	X**	X	n/a	X	X (01)	X	X**	n/a	n/a
FXAQ_PVJU	X	X	X	X	n/a	X	X (01)	X	X	n/a	n/a
FXZQ_M7VJU	X	X**	X**	X	X	X	X (01)	X	X**	X**	n/a
FXFQ_MVJU FCQ_MVJU FCQ_PVJU	X	n/a	n/a	n/a	X	X	X (01)	X	n/a	n/a	n/a
FXFQ_PVJU FCQ_PAVJU	X	X	X	X	X	X	X (01)	X	X	X	X
FXHQ_MVJU FHQ_MVJU FHQ_PVJU	X	n/a	n/a	n/a	X	X	X (01)	X	n/a	n/a	n/a

* Field settings highlighted in purple may not be available in units manufactured before 1/1/2013.
** Field settings highlighted in orange may not be available in units manufactured before 9/1/2009.
*** Field settings highlighted in blue may not be available in units manufactured before 1/1/2007.
**** Factory default value is indicated in parenthesis.

Field Settings Table

Mode No. (Note 1)	First Code No.	Description	Second Code No. (Cells in bold are factory default settings) 01	02	03	04
10(20)	2	Priority of thermistor sensors for space temperature control	The return air thermistor is primary and the remote controller thermistor is secondary.	Only the return air thermistor will be utilized.	Only the remote controller thermistor will be utilized.	–
	5	Room temperature value reported to multizone controllers	Return air thermistor	Thermistor designated by 10-2 above (Note 3)	–	–
	6	The remote controller thermistor is used in Remote Controller Group	No	Yes	–	–
12(22)	0	KRP1B71 X1-X2 status output	Indoor unit Thermo-On/Off status	–	Indoor unit Operation On/Off status	Indoor unit Alarm status
	1	Indoor unit T1-T2 input	Forced Off Closed Contact-Indoor unit is forced off and Central Control icon is displayed. Unit cannot be turned on manually. Operation can be overridden by central control. Open Contact-Indoor unit can resume normal operation. Unit must be turned on manually or by central control.	On/Off Closed Contact-Indoor unit is turned on. Open Contact-Indoor unit is turned off. Unit responds to last command, i.e., unit can be turned on manually or by central control after circuit has opened. Operation is prohibited when remote controller On/Off control is restricted by a multizone controller.	External Protection Device Closed contact-Unit shall resume normal operation. Open contact-Unit shall shut down and generate an A0 error.	
	2	Thermo-On/Off deadband (Note 4)	2F (1C)	1F (0.5C)	–	–
	3	Fan Speed in Heating Thermo-Off	LL	User set	Off	–
	6	Fan Speed in Cooling Thermo-Off	LL	User set	Off	–
	8	Return air sensor offset	2C	None (for remote sensor)		

1. **Field settings are normally applied to the entire remote control group, however if individual indoor units in the remote control group require specific settings or for confirmation that settings have been established, utilize the mode number in parenthesis.**
2. **Any features not supported by the installed indoor unit will not be displayed.**
3. **When mode 10-2-01 is selected, only the return air temperature value is reported to the multi-zone controller.**
4. **The actual default deadband value will depend upon the indoor unit model.**

Field Settings Table

Mode No.	First Code No.	Description	Second Code No. (Cells in bold are factory default settings) 01	02	03	04
1b	7	STANDBY icon	Display in Defrost or Hot Start	Not Displayed		
	11	Day/Clock	Displayed	Not Displayed		
	12	Setpoint display while the unit is off	Displayed	Not Displayed		
	13	Mode display while the unit is off	Displayed	Display OFF instead of the mode		
	14	Fan Speed button configuration	Fan Speed	Fan ON/Auto (Fan LL in thermo-off) (Applicable to SkyAir only)	FAN ON/Auto (Fan Off in thermo-off) (Applicable to SkyAir only)	
	15	Fan icon display	Displayed	Not Displayed		
1c	1	Thermistor sensor used for Auto-changeover and Setback control	Return Air Thermistor– return air temperature displayed on controller as room temperature	Remote Controller Thermistor – remote controller temperature displayed on controller as room temperature	--	--
	10	Temperature Sensor Offset	**01:** -5.4°F (-3.0°C) **02:** -4.5°F (-2.5°C) **03:** -3.6°F (-2.0°C) **04:** -2.7°F (-1.5°C) **05:** -1.8°F (-1.0°C) **06:** -0.9°F (-0.5°C) **07:** 0.0°F (0.0°C) **13:** +5.4°F (+3.0°C) **12:** +4.5°F (+2.5°C) **11:** +3.6°F (+2.0°C) **10:** +2.7°F (+1.5°C) **09:** +1.8°F (+1.0°C) **08:** +0.9°F (+0.5°C)			
1e	2	Setback availability	N/A	Heating mode only	Cooling mode only	Cooling/ Heating modes
	4	Schedule and Auto-changeover enabled when multi-zone controller is detected **(Note 1)**	No	Yes	--	--
	9	CENTRAL CONTROL icon	Not displayed	Displayed when under control by a multi-zone controller		
	10	Message when button pushed which has been prohibited by a multi-zone controller	Key lock icon blinks for 5 seconds	Message displayed on screen: "Under Centralized Control. Adjustments at the remote control are being restricted."		
	11	Auto changeover guard timer	15 min	30 min	60 min	90 min
	12	Auto changeover point	0.9°F (0.5°C)	1.8°F (1.0°C)	2.7°F (1.5°C)	3.6°F (2.0°C)
	13	Quick changeover point beyond the auto changeover point	0.9°F (0.5°C)	1.8°F (1.0°C)	2.7°F (1.5°C)	3.6°F (2.0°C)

1. Native remote controller Schedule and Auto-changeover functions are disabled when a multi-zone controller is detected and a group address is assigned.

Factory Default Field Settings

BRC1E72 Field Setting - Factory Default Values

- Do not change from the factory default value in the cells below highlighted in grey.
- This table would be referred to confirm the default value when you might have changed the unnecessary field setting accidentally.

First Code No. \ Mode No.	1b	1c	1e
0	02	02	--
1	02	02	02
2	--	02	01
3	--	01	--
4	04	02	01
5	01	01	02
6	01	01	02
7	01	02	02
8	05	01	02
9	01	01	02
10	--	07	02
11	01	07	03
12	01	--	01
13	01	--	01
14	01	--	--
15	01	--	--

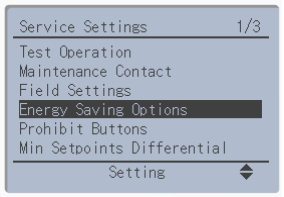
BRC1E72 Sensor

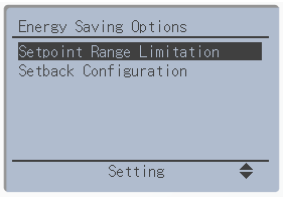
- **To use only BRC1E72 sensor, set field settings as 10-2-03, 10-5-02, & 1C-1-02**
- **10-2-03, 10-5-02 availability**
  - Always available: FXMQ_P, FXTQ_P, FXAQ_P, FXFQ_P, FBQ_P, FTQ_P, FCQ_PA
  - All _M series (except FXFQ, FXHQ, FCQ, FHQ)
    - Manufactured after 9/1/2009: always available
    - Manufactured before 9/1/2009: confirm if 10-2-03, 10-5-02 are available.
  - Never available: FXFQ_MVJU, FXHQ_MVJU, FCQ_MVJU, FCQ_PVJU, FHQ_MVJU, FHQ_PVJU
    - Set 10-2-02 and use Remote sensor (or Return air sensor) only
- **Field setting – 10-2, 10-5 and 1C-1 settings are necessary**

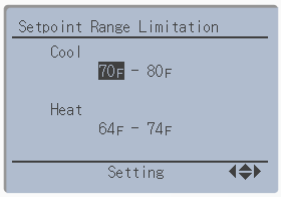
Which single sensor is used?	**For indoor unit control** (Cool/Dry/Heat VRV and thermo-on/off control)	**For BRC1E72 control** (Auto changeover and setback control)	**For Multi-zone Control**	
BRC1E72	10-2-03	1C-1-02 (default)	10-5-02	**Recommended**
Remote sensor (or Return air sensor)	10-2-02 (it is always available)	1C-1-01	10-5-01 (default)	

Setpoint Range

- Service Settings Menu ▸ Energy Saving Options ▸ Setpoint Range Limitations



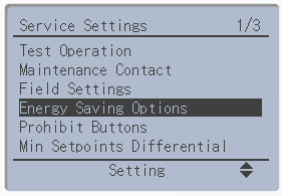


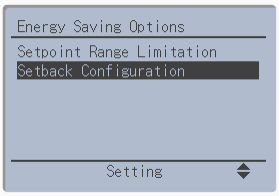


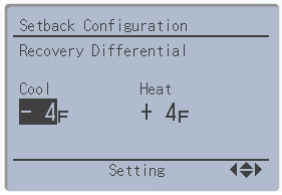
Scroll to select, then press the OK button on each screen.

Setback Recovery Differential

- Service Settings Menu ▸ Energy Saving Options ▸ Setback Recovery Differential







Scroll to select, then press the OK button on each screen.

Enable Setback

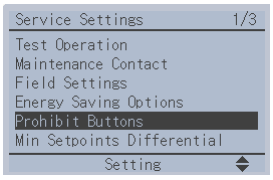
- Setback function is disabled (1e-2-01) by default
- To enable it, set 1e-2-04

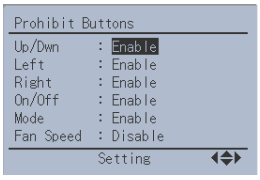
Mode No.	First Code No.	Description	Second Code No. (Cells in bold are factory default settings)			
			01	02	03	04
1e	2	Setback availability	N/A	Heating mode only	Cooling mode only	Cooling/ Heating modes

Default

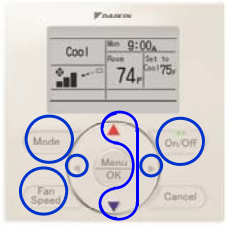
Prohibit R/C Buttons

- **Service Setting ▸ Prohibit Functions ▸ Prohibit Buttons**
  - Enable = permit
  - Disable = prohibit
  - Disable in Off = prohibit only while the unit is off
- **To enable Prohibit Buttons – see n**





Scroll to select, then press the OK button on each screen.



Operable buttons

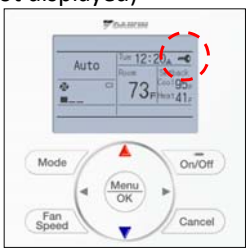
Menu/OK and Cancel button will be prohibited when any of the buttons are prohibited.

Enable/Disable Prohibit Buttons

- To enable Prohibit Buttons, holding Right arrow button, push Mode, Fan Speed and Cancel at the same time while the main screen is displayed
- To release it, same as above

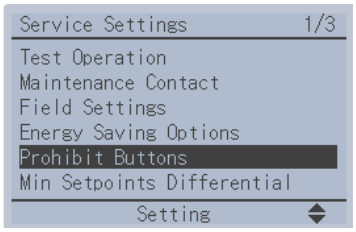
These buttons can be pressed from above the optional Face Decals to enable/disable prohibit buttons

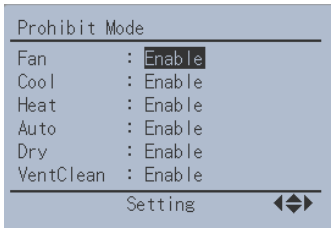
- Then if you push prohibited button, you will see a key icon blinking three times
- Key icon is available in Detailed and Standard display mode only (In simple display mode Key icon is not displayed)



Prohibit Mode

- Service Setting ▶ Prohibit Functions Prohibit Mode
  - Enable = selectable, Disable = not selectable

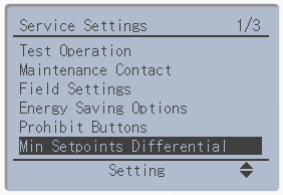


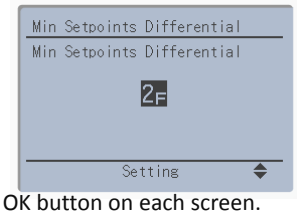


Scroll to select, then press the OK button on each screen.

Minimum Setpoint Differential

- Service Settings ▸ Min Setpoint Differential
  - Configurable to 0 – 8°F (0 – 4°C), default is 2°F (1°C) for Dual SP or Single SP





Scroll to select, then press the OK button on each screen.

  - When the differential is set to 0 – 8F, Cool and Heat setpoints are maintained as
    - Cool setpoint ≥ Heat setpoint + Differential
  - When Single SP is set, there is one setpoint for Cool and Heat
  - When a multi-zone controller is connected, the differential is set to Single SP automatically.

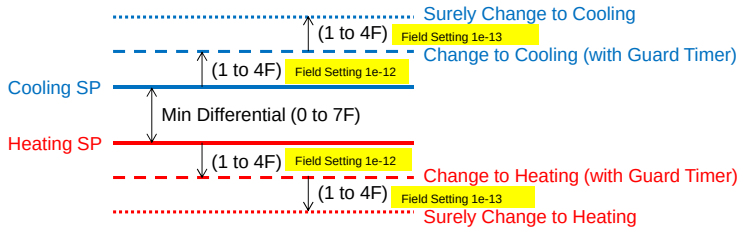
Schedule & Auto Changeover Disabled

- When a group address is assigned and a multi-zone controller is connected, Schedule and Auto changeover on BRC1E72 are disabled.
  - To prevent conflict between BRC1E72 and I-TC or BMS control
  - Min. setpoint differential would be set at Single SP
    - When setpoint is changed from a multi-zone controller, the both cooling and heating setpoints are overridden with the same value.
- Field setting 1e-4-02 re-enables BRC1E72

Mode No.	First Code No.	Description	Second Code No. (Cells in bold are factory default settings) 01	02	03	04
1e	4	Schedule and Auto-changeover enabled when multizone controller is detected (Note 1)	No **Default**	Yes	–	–

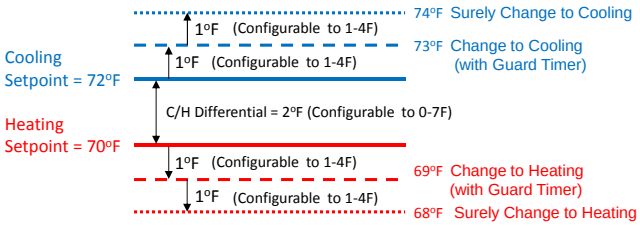
Auto Changeover

- Automatic changeover in Heat Pump and Heat Recovery Systems
  - At 1°F above cooling or 1°F below heating setpoint (default)
    - Configurable between 1°F – 4°F (improved) Field Setting 1e-12
  - Another 1°F above cooling or 1°F below heating changeover points immediate changeover ignoring guard timer (new)
    - Configurable between 1°F – 4°F (new) Field Setting 1e-13
  - Guard timer to prevent frequent mode change (improved)
    - 15, 30, 60 (default), or 90 minute guard timer settable Field Setting 1e-11

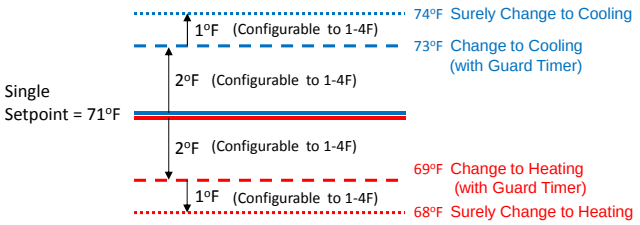


Auto Changeover

Example #1 = Dual Setpoints

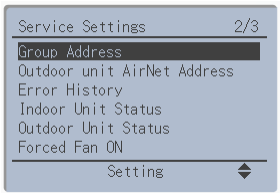


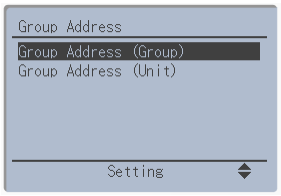
Example #2 = Single Setpoint



Setting Group Addresses

- Service Settings ▸ Group Address ▸ Group Address (Group) or Group Address (Unit)
  - When a multi-zone controller such as the iTouch Controller, iTouch Manager, or BMS Gateways are connected, Group Address settings must be configured through the Service Settings mode.
  - A Group consists of 1 to 16 indoor units connected to the same Remote Controller.
  - There are 64 Group Addresses available:
    - 1-00 to 1-15
    - 2-00 to 2-15
    - 3-00 to 3-15
    - 4-00 to 4-15

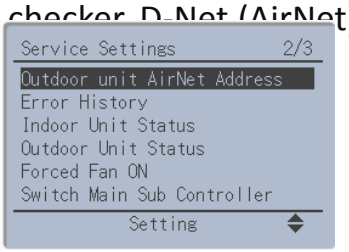


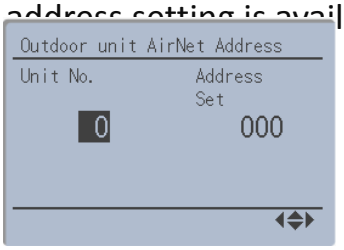


Scroll to select, then press the OK button on each screen.

D-Net (AirNet) Address

- Service Settings ▸ Outdoor unit AirNet Address
  - To Identify each indoor unit on the Service checker, D-Net (AirNet) address setting is available

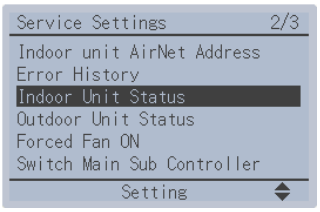


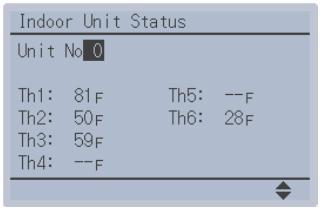


Scroll to select, then press the OK button on each screen.

Indoor Unit Sensor Display

- Service Settings ▸ Indoor Unit Status
  - Sensor values are displayed in Fahrenheit
  - **Th1**: RA sensor (Remote Sensor) **Th2**: Liq. sensor
  - **Th3**: Gas sensor **Th4**: Discharge

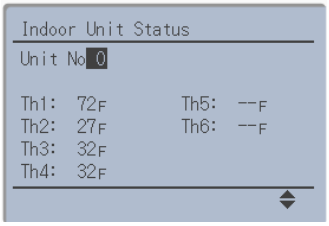




Scroll to select, then press the OK button on each screen.

Indoor Unit Temperatures

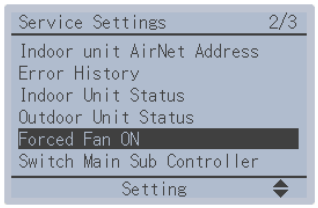
- **Service Settings ▸ Indoor Unit Status**
  - Applicable for P-series indoor units (FXMQ_P, FXTQ_P)

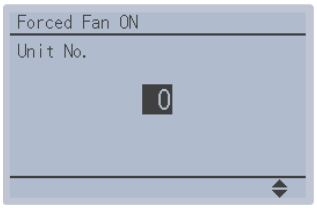


Th #	Description
Th1	Return air sensor (Remote sensor) temperature
Th2	Liquid line temperature
Th3	Gas line temperature
Th4	Discharge air temperature (FXMQ_P only)
Th5	Remote controller sensor temperature
Th6	Temperature to be used for indoor unit control (See field setting 10(20) - 2)

Indoor Unit Address ID

- Service Settings ▸ Forced Fan On
  - To determine the group address and the unit number assigned to an indoor unit in a group, use the “Forced Fan ON” mode (indoor units must be turned OFF)
    - The “Forced Fan ON” screen appears with system address (Unit No.) “0”
    - Within several seconds the indoor unit assigned unit “0” will turn on
    - Use the scroll arrow to change the Unit No. from “0” to 1, 2, 3 etc. and the fans in those indoor units will energize in HH accordingly
    - Press CANCEL button twice to de-energize the fan and return to Main Display

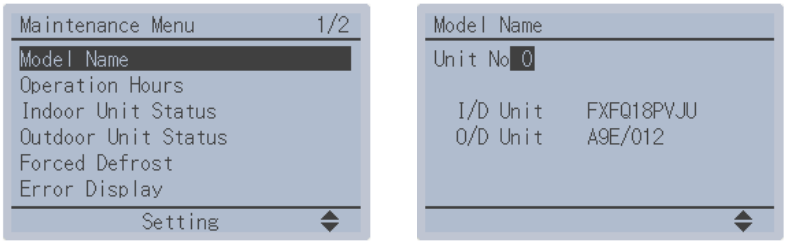




Maintenance Menu

Indoor Unit Model Display

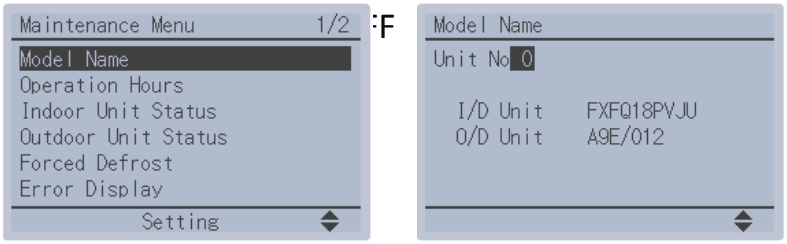
- **Mantenance ▸ Model Name**
  - The connected indoor unit(s) model number may be displayed on the Nav. Remote screen by accessing the Maintenance menu



Scroll to select, then press the OK button on each screen.

Indoor Unit Operating Status

- **Mantenance ▸ Indoor Unit Status**
  - The connected indoor unit(s) operating status may be displayed on the Nav. Remote screen by accessing the Maintenance menu
  - MP: Drain Pump ON/OFF EH: Elec. Htr. ON/OFF



Scroll to select, then press the OK button on each screen.

Sensors, Adaptors & Cables

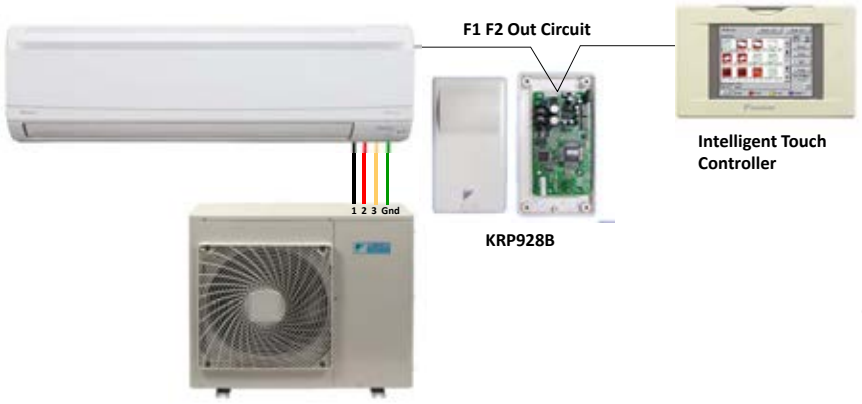
KRCS01 Remote Sensor

- **KRCS01-1B (4B) Remote Sensor is offered to replace the return air thermistor when:**
  - Outside fresh air is brought in to the fan coil return air
  - Ceiling height of fan coil return is 13ft or more
  - Above ceiling plenum return is used
- **Standard 39ft cable - Plenum Rated 40ft and 80ft cable optional**

KRCS01 Remote Sensor for FFQ ONLY

KRP928B Controls Adapter

Simple installation to interface mini split 4-wire communication to VRV D-III Net 2-wire F1 F2



Plenum Rated Cables

Model Name	Description	Applicable to
DACA-ARCW901P10	IR Receiver Cable, Plenum Rated, 10ft	FDXS09,12DVJU
DACA-ARCW901P25	IR Receiver Cable, Plenum Rated, 25ft	FDXS09,12DVJU
DACA-BRCW901P10	Remote Controller Cable, Plenum Rated, 10ft	BRC944B2-A08
DACA-BRCW901P25	Remote Controller Cable, Plenum Rated, 25ft	BRC944B2-A08

Topics

These Residential/Light Commercial Remote Controllers and Accessories were discussed:

- ARC452 Wireless Remote
- ARC447 Quaternity Wireless Remote
- BRC944B2 Optional Wired Remote
- BRC7E830/BRC4C82 Optional Wireless Remote
- KRP980B1 Interface Adapter Kit
- DACA-TS1-1 Daikin ENVi Optional Wired Remote
- BRC1E72 Navigation Optional Wired Remote
- KRCS01 Remote Sensor
- KRP928B Controls Adapter
- Plenum Rated Cables

DAIKIN

COMFORT FOR LIFE

Thank You

RLC Installation & Start Up
PT-RLC-0113-TTK-01B
Agenda

2013

Coffee/Continental Breakfast
Welcome, Logistics, Introductions, Etc.
Module 1.0: Introduction to Daikin
Module 2.0: Piping & R-410A
Break
Module 3.0: Four Wire Systems Product & Technology
Lunch
Module 4.0: Four Wire Systems Install & Start-up
Break
Module 5.0: RLC Remote Controllers