



Light Commercial Solutions

All-electric, all-climate heating and cooling

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Designed for life,

A modern interior space featuring a ceiling with horizontal wood slats and several small, dark, cylindrical pendant lights. A vertical garden with green plants is visible on the right side of the frame. The text "inside and out." is written vertically in white on the left side of the image.

inside and out.

Heat Pump Solutions for Light Commercial Applications

Mitsubishi Electric's all-climate heat pump technology is an optimal solution for Light Commercial applications, offering individual zoning for tailored comfort and efficient operation, all in an eco-friendly package.

Manage your energy use and comfort with zoned control

Unmatched Quality, Uncompromising Control

Enjoy superior comfort control with our intelligent and efficient systems. In addition to being quiet, our systems provide extraordinary service life and are supported by industry leading warranties.

Create Comfort Zones

Assign a reception area, private office, conference room, or warehouse to a different “zone” so each space is always comfortable. Customize the set point for each area and the SMART MULTI® system will quietly maintain the temperature while using the least amount of energy needed. Infrequently used and unoccupied spaces can be conditioned only when in use for more efficient energy usage.



One-way
Ceiling-recessed

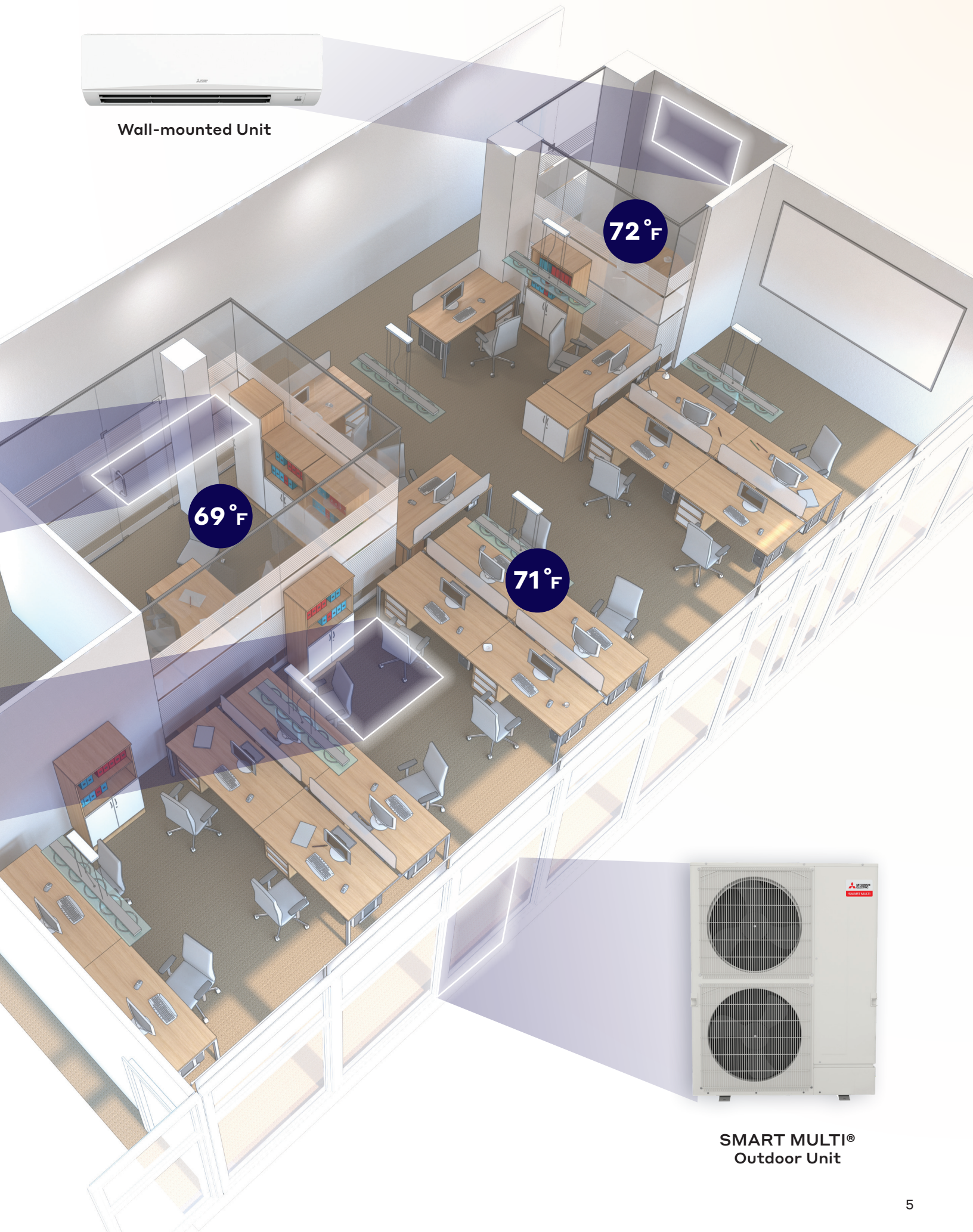


Four-way
Ceiling-recessed

A more efficient and environmentally friendly way to cool and heat your light commercial projects.



Wall-mounted Unit



SMART MULTI®
Outdoor Unit

How It Works

The essential components of the SMART MULTI® system are the outdoor unit, indoor units, and the comfort controls. The system operates by transferring heat to and from the outdoor unit to one or more indoor units. The units are connected by pipes containing refrigerant, a substance that absorbs heat.

In cooling mode, the refrigerant absorbs heat inside the space and produces colder air by transferring refrigerant from the indoor units to the outdoor unit, where the heat is expelled.

In heating mode, the process is reversed. Refrigerant absorbs heat from the outside air and provides warmth by transferring the refrigerant from the outdoor units to the indoor units. Mitsubishi Electric all-climate heat pumps, such as SMART MULTI, are 260-490% efficient, depending on the unit combination*. They achieve this by generating more energy in heating and cooling than they use in electricity.

The SMART MULTI outdoor unit is equipped with an Inverter-driven compressor that offers superior energy efficiency by adjusting its speed to meet heating and cooling demands precisely. This reduces power consumption, minimizes temperature fluctuations, and ensures quiet operation. Additionally, it enhances system reliability, extends component lifespan, and provides consistent indoor comfort throughout the year.

All-Climate Comfort

With our Hyper-Heating Inverter® (H2i®) technology, a SMART MULTI system can produce up to 100% heating capacity (36,000, 42,000, 48,000 BTU/H models) and 80% heating capacity (60,000 BTU/H model) at temperatures as low as -13° F. H2i systems are well-suited for climates in the northern half of the United States, and are available in 36,000, 42,000, 48,000, and 60,000 BTU/H capacities.

*Efficiency rating for each of our current heat pump models are located here and reflect the heat pump model's COP. "Efficiency" or "efficient" means that the heat pump delivers that amount more energy (in the form of heat) than the heat pump consumes in electricity. COP (coefficient of performance) is a measure of energy efficiency, with a higher efficiency associated with a higher COP. A COP of 1 is equivalent to 100% efficiency and a COP of 2 is equivalent of 200% efficiency (that is, it delivers twice that amount more energy in the form of heat than it consumes in electricity). Our "heat pump systems" are comprised of connected current models of Mitsubishi Electric outdoor and indoor heat pump units. COP rating testing was performed at 47° F, the industry standard.

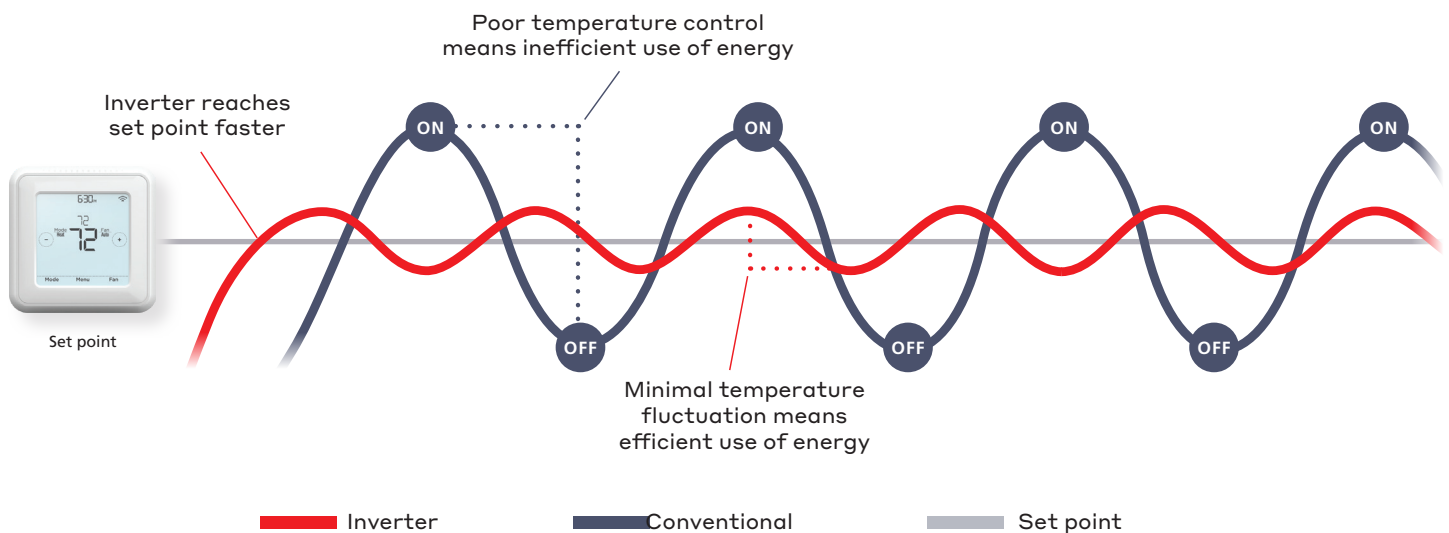


The Inverter Advantage

Mitsubishi Electric HVAC systems operate at ultra-quiet sound levels and use minimal energy to maintain each zone's set point. The outdoor unit's Inverter-driven compressor varies fan speeds and the amount of refrigerant delivered to the indoor units, so the capacity and energy use match the real-time conditioning needs of the zones. As conditioning demands fluctuate with occupancy, activities, and outdoor temperatures, the Inverter-driven system ramps up and winds down as needed to keep indoor temperatures steady. The continuous operation of Mitsubishi Electric system fans also helps distribute air, eliminate hot and cold spots, and prevent the need to blow air at high velocities. This method provides more precise comfort control, quieter operation, and greater energy efficiency than conventional systems. Traditional systems use a fixed-speed compressor, which noisily cycles the unit on and off whenever the room dips below desired temperatures. This system relies on an all-or-nothing philosophy—with the compressor running at either zero or 100 percent. This can lead to unpleasant and energy-intensive temperature swings as the system strains to maintain a constant temperature.



Inverter vs. Conventional System Operation

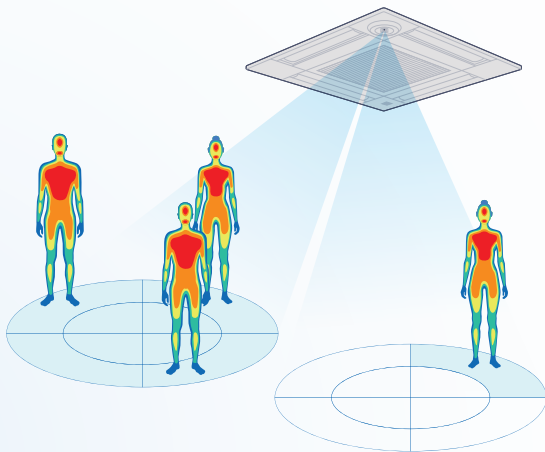
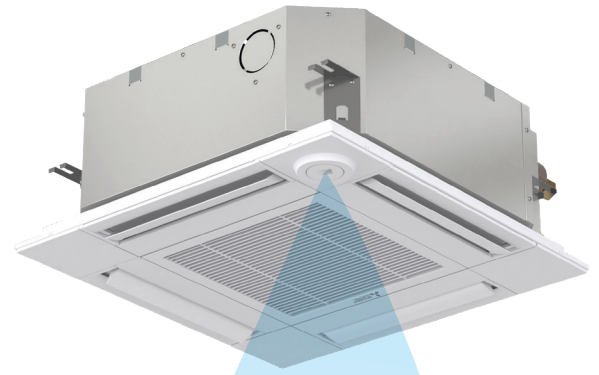


3D i-see Sensor®

Available with select indoor unit models, the 3D i-see Sensor increases the sensitivity of the system and gives you opportunities to further customize comfort in your space. The sensor scans each room to produce a thermal profile that includes heat signatures based upon size, temperature, and movement. The sensor then adjusts temperature and airflow based on user preference, and energy consumption based on room occupancy, eliminating cold or hot spots.

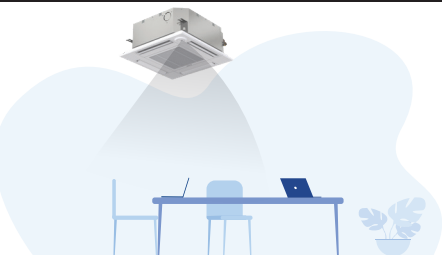
Advanced Occupancy Detection

Select ceiling-recessed indoor unit models are equipped with sensors that rotate a full 360° in three-minute intervals. This allows the units to detect human body temperature and use an algorithm that calculates the number of people in the room, as well as their positions. The 3D i-see Sensor maximizes comfort by automatically adjusting its output based on occupancy.



Direct Airflow

Set your indoor units to send airflow directly toward occupants.



Absence Detection

When no one is in the room, the 3D i-see Sensor can direct your indoor units to enter an energy-saving mode.



Indirect Airflow

This setting is useful when the occupant does not wish to have air blowing directly on them.



Understanding Zoned Comfort



We offer both single- and multi-zone systems. With single-zone equipment, one outdoor unit connects to one indoor unit. This option is ideal if you only need to heat and cool a single space.

With multi-zone equipment, three-phase SMART MULTI® outdoor units can connect up to 12 M- and P-Series indoor units or 30 CITY MULTI® indoor units. The single-phase SMART MULTI outdoor units can connect up to 8 M- and P-Series indoor units and 12 CITY MULTI indoor units. This option is perfect if you need cooling and heating in multiple spaces with different functions, such as a front office versus a kitchen or an office versus a conference room.

Each zone is served by its own indoor unit. Indoor units come in a variety of forms including wall-mounted, floor-mounted, ceiling-recessed units, and ducted options.

Wall-mounted units tend to be the most popular, but a floor-mounted unit could be an attractive option for an office that has windows, but no wall space. A high-performance air handler could replace an older system, such as a central system or boiler that previously cooled or heated an open space.



Single-zone



Multi-zone



A single-zone system is ideal if you only need cooling and heating in a **single space**.

One outdoor unit connects to one indoor unit.



Multi-zone systems are designed for cooling and heating **multiple spaces**.

Three-phase SMART MULTI® can connect to as many as 12 M- and P-Series indoor units and up to 30 CITY MULTI® units, while single-phase SMART MULTI connects to as many as 8 M- and P-Series indoor or 12 CITY MULTI indoor units. Connectable capacity is dependent on the outdoor model number.

SMART MULTI with branch box and M- & P-Series indoor units

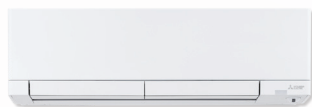


SMART MULTI with CITY MULTI indoor units





M-Series Single-zone Indoor Units



MSZ-FX
Wall-mounted Unit



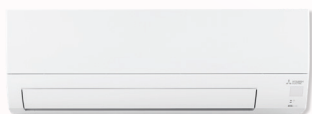
SVZ
Multi-position Air Handler



MSZ-GX
Wall-mounted Unit



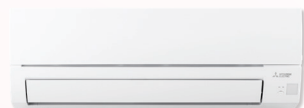
MFZ
Floor-mounted Unit



MSZ-JX 115V
Wall-mounted Unit



SLZ
Ceiling-recessed Unit



MSZ-WX, MSZ-HX
Wall-mounted Unit



SEZ Low-static
Horizontal-ducted Unit



MLZ
EZ FIT® Ceiling-recessed

M-Series Outdoor Units

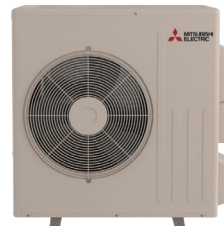
Cooling Only

MUY



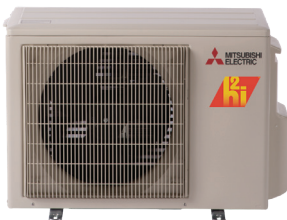
Standard Heat Pumps

MUZ-GX
MUZ-HX
MUZ-JX
MUZ-WX
SUZ



Hyper-Heating Inverter® Heat Pumps

MUZ-FX
MUZ-GX
SUZ





P-Series Single-zone Indoor Units



PKA
Wall-mounted Unit



PEAD Mid-static
Horizontal-ducted



PCA
Ceiling-suspended Unit



PLA
Four-way Ceiling-recessed



PAA
(Single-phase Only)
Cased Coil



PVA
Multi-position Air Handler

P-Series Outdoor Units

Cooling Only



PUY 12/18



PUY 24/30



PUY 36/42/48/60

Standard Heat Pumps



PUZ 12/18



PUZ 24/30



PUZ 36/42/48/60

Hyper-Heating Inverter® Heat Pumps



PUZ 24/30/36/42/48

Reliable systems for light commercial buildings

Designed to meet the needs of light commercial and residential applications, these Single-zone systems are perfectly suited for mechanical/electrical areas where critical cooling is needed.



Indoor Unit Features



Single-zone

One outdoor unit connects to one indoor unit and provides comfort in one zone.



Multi-zone

One outdoor unit connects to up to thirty indoor units and provides comfort in multiple zones.



3D i-see Sensor®

The advanced sensor scans each room to produce a complete thermal profile that includes heat signatures based upon size, temperature and movement, then adjusts temperature and airflow based on user preference, and saves energy according to room occupancy.



Wi-Fi Enabled

Wi-Fi enabled units come with the capability to connect with the Comfort app, so you can control temperature, fan speeds, modes, schedules, and more from your smart device without additional equipment.



Swing Mode

An indoor unit with this capability can move air throughout the room like an oscillating fan.



Powerful Mode

Powerful Mode utilizes the capabilities of the Inverter-driven system to temporarily drop or raise the set point and increase fan speed for 15 minutes, quickly bringing the room to the desired temperature.



Econo Cool

Econo Cool mode temporarily adjusts the airflow to maintain comfort while using less energy.



Dual Barrier Coating

The patented Dual Barrier Coating technology reduces the collection of contaminants like dust, fibers, smoke, and oil on system components, resulting in optimal efficiency and easier maintenance.



Outdoor Unit Features



Flash Injection

As temperatures drop outside, the compressor speeds up to maintain indoor comfort. The flash injection process supplies a small amount of cooler refrigerant back to the compressor, reducing excess heat from increased speeds, allowing it to run faster and produce high heating performance. This also enables the system to achieve set points faster, maintain efficiency, and recover quickly after defrost cycle.



Inverter-driven Compressor

Our energy-efficient Inverter-driven compressor can vary its compressor speed and refrigerant flow to produce the precise capacity needed to reach and maintain the desired temperature set point. A conventional compressor turns on at full power to reach the desired set point, then shuts off. This on/off operation uses more energy and results in room temperature fluctuations.



Hyper-Heating Inverter®

Hyper-Heating Inverter models provide heating even with ambient outdoor temperatures as low as -13° F, producing up to 100% heating capacity down to 5° F. These units offer year-round comfort even in extreme climates.



Blue Fin

Particularly beneficial in coastal areas, this anti-corrosion treatment applied to the aluminum fins of the heat exchanger of the outdoor unit prevents the corrosion caused by salt, sulfur, and other airborne contaminants that impact efficiency and performance. Blue Fin coatings are rated, per ASTM B117 Standard, for a duration of 2,000 hours.

SMART MULTI® Outdoor Units



MXZ-SM H2i®

The SMART MULTI (MXZ-SM) outdoor unit lineup includes Hyper-Heating Inverter® (H2i®) technology. SMART MULTI is a single-phase heat pump ideal for residential and light commercial applications including banks, churches, schools, retail centers, and more.

Key Features

- Connect up to 12 indoor units, allowable indoor units will vary based on CITY MULTI® or M- and P-Series
- 100% heating capacity to -13° F ambient (36/42/48k BTU/H model), 80% heating capacity to -13° F ambient (60k BTU/H model)
- ENERGY STAR® and ENERGY STAR Cold Climate certified units (combination specific, refer to submittals/AHRI database for qualified combinations)
- Base pan heater standard on all models
- Blue Fin Heat Exchanger (2,000 hrs rating per ASTM B117)
- Available in 36,000, 42,000, 48,000 and 60,000 BTU/H capacities

Low ambient operation requires the use of low ambient accessories such as a WB-PA3 Wind Baffle.



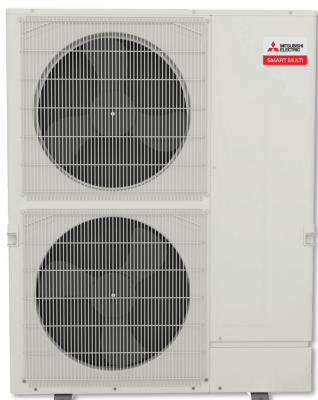
MXZ-SM

SMART MULTI (MXZ-SM) systems are single-phase outdoor units with Inverter technology, offering an ideal fit for residential and light commercial applications. Featuring best-in-class efficiency ratings and ENERGY STAR® certified units, SMART MULTI systems are designed to deliver operational cost savings and long-term performance.

Key Features

- Connect up to 12 indoor units, allowable indoor units will vary based on CITY MULTI or M- and P-Series
- Available in 36,000, 48,000, and 60,000 BTU/H capacities
- Blue Fin Heat Exchanger (2,000 hrs rating per ASTM B117)
- Extended heating operating range down to -13° F
- Extended cooling operating range down to 5° F

Low ambient operation requires the use of low ambient accessories such as a WB-PA3 Wind Baffle.



MXZ-SM***TL

SMART MULTI® (MXZ-SM***TL) systems are three-phase outdoor units with Inverter technology, offering an ideal fit for light commercial applications. With the improved COP/EER/IEER to qualify for ENERGY STAR® Light Commercial and ENERGY STAR Cold Climate Light Commercial, SMART MULTI three-phase systems are designed to deliver operational cost savings and long-term performance.

Key Features

- Available in 72,000, 96,000, and 120,000 BTU/H capacities (6-, 8-, and 10-ton)
- Extended cooling operating range down to 5° F (requires wind baffles)
- Connect up to 30 indoor units, allowable indoor units will vary based on CITY MULTI or M- and P-Series
- Heating minimum rated range improved from -4 to -13° F
- Improvements to efficiency ratings allow all combinations to qualify for Energy Star Light Commercial and Energy Star Cold Climate Light Commercial program specs
- New shut-off valve kit available which reduces releasable charge and decreases room area requirement for the indoor unit
- Blue Fin Heat Exchanger (2,000 hrs rating per ASTM B117)
- 0.12 in.WG external static pressure option for condenser fan to support duct applications of the outdoor unit

M- & P-Series Indoor units that can connect to SMART MULTI®



MSZ-FX
Wall-mounted Unit



MFZ
Floor-mounted Unit



MSZ-GX
Wall-mounted Unit



SLZ
Ceiling-recessed Unit



MLZ
EZ FIT® Ceiling-recessed



SEZ
*Low-static
Horizontal-ducted Unit*



PLA
Four-way Ceiling-recessed



PEAD
*Mid-static
Horizontal-ducted Unit*



SVZ
Multi-position Air Handler



PAA
*(Single-phase Only)
Cased Coil*

CITY MULTI® Indoor units that can connect to SMART MULTI®



PLFY-EM-NEMU

Ceiling-recessed



PLFY-M-NFMU

Ceiling-recessed



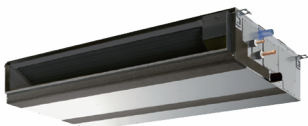
PMFY-M-NCMU

Ceiling-recessed



PEFY-M-NMSU

Ceiling-concealed Unit



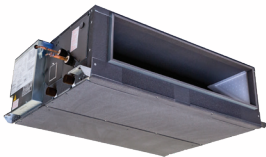
PEFY-M-NMAU

Ceiling-concealed Unit



**PEFY-P NMHU-E2,
PEFY-P NMHSU-E**

Ceiling-concealed Unit



PEFY-P NMHU-E-OA

Ceiling-concealed Unit



PKFY-M-NLMU

Wall-mounted Unit



PKFY-M-NKMU

Wall-mounted Unit



PCFY-M-NKMU

Ceiling-suspended Unit



PVFY-M

Multi-position Air Handler

Controls



Deluxe MA Controller

PAR-43MAAU

Use the Deluxe MA zone controller to adjust mode, fan speed, airflow, and many more advanced settings. Temperature sensing can be configured to read at the controller or the indoor unit. This controller also features scheduling capabilities and an easy-to-navigate screen.

- Controls up to 16 zones
- Audible alarm with unique error code for leak sensors
- Interlock and control Lossnay® units
- Controls air direction (vane direction and ventilation)
- Dual set point functionality
- Leak sensor test mode function for commissioning



MHK2 Wireless Controller

MHK2

The MHK2 Wireless Controller can be mounted onto any wall, without the need to pull a wire toward hard-to-reach locations. Set custom schedules and easily change mode between Cool, Heat, Dry, and Fan.

- Wireless RedLINK remote controller and receiver
- Wireless, battery powered
- Connects to the Comfort app through the Wireless Interface 2 or built-in Wi-Fi
- Dual set point control with system change over
- Works with Wireless Interface 2 on all CITY MULTI®, P-Series, and M-Series indoor units



available in different colors

Simple Direct Wired (SDW)

PAC-SDW01RC-3

This low cost remote controller is a perfect choice for multi-family applications. It features a color screen, is programmable, and has temperature and humidity sensing. The SDW works with existing thermostat wire (50-foot max), making this a valuable time saver when replacing controllers.

- Connects to the Comfort app through the Wireless Interface 2 or built-in Wi-Fi interface
- Connects using standard 18 AWG thermostat wire
- Auto Dry feature to help regulate humidity levels
- Simple to control using the single dial button



Touch MA Controller

PAR-CT01MAU-SB

The Touch MA zone controller boasts a 180-option touchscreen user interface that is simple to use. Personalize the home screen with a company logo.

- Controls up to 16 indoor units
- Back lit LCD
- On/Off timer: turns on and off daily at a set time
- Bluetooth® app for users and installers



Simple MA Controller

PAC-YT53RAU

Use the Simple MA remote controller to adjust mode, fan speed, airflow, and more. Temperature sensing can be configured to read at the controller or the indoor unit. This controller allows group operation for up to 16 indoor units.

- Operation modes of Cool, Heat, Dry, Fan, Auto, Ventilation, and Setback (depending on connected equipment)
- Back lit LCD



The Comfort app

The Comfort app is an app-based control interface managed from a smartphone or tablet. Adjust room temperature, set schedules, view alarms, and much more. The Comfort app uses a patented algorithm to automatically change the system from heating mode and back to cooling mode based on surveying each zone.

- Compatible with all indoor units
- Requires the Mitsubishi Electric Wireless Interface (PAC-USWHS002-WF-2)
- Easy to connect the device to your router using the Comfort app
- Intuitive settings for simplified use:
 - Group units together
 - Organize groups into sites
 - Batch command units
- Error and filter status pop-up
- Advanced functions settings for M- and P-Series equipment



kumo station®

PAC-WHS01HC-E

kumo station expands the capabilities of the Comfort app to allow homeowners and building managers to manage cooling, heating, humidification, and ventilation based upon ambient conditions and personal comfort preferences. The equipment controller, with outdoor air temperature monitoring, integrates with third-party equipment including two-stage auxiliary heaters, humidifiers, dehumidifiers and ventilation equipment.

- Four outputs to control auxiliary heat, humidifier, dehumidifier, ERV or HRV
- Controls one or two stages of supplemental heat
- Wireless Interface 2 required to connect to the Comfort app
- 24 VAC power supply required. Supplied by others

Control interfaces



Wireless Interface 2

PAC-USWHS002-WF-2

This device allows for a Mitsubishi Electric indoor unit to communicate with the Comfort app and web service.

- Connection via Wi-Fi network
- Connected to indoor unit by CN105
- One Wireless Interface required per connected indoor unit



Wireless Temperature and Humidity Sensor

PAC-USWHS003-TH-1

The sensor relays temperature and humidity to the app, allowing the interface that connects to your unit allows you to control the system through the Comfort app. One wireless sensor can be configured for each wireless interface.

- One wireless remote sensor per Wireless Interface 2
- Connects via Bluetooth Low Energy with Wireless Interface 2
- Battery powered (up to 1 year battery life)
- Push notifications when battery is low through the Comfort app



Outdoor Air Temperature Sensor

C7089U1006/U

This device works with the kumo station® to sense outdoor air ambient temperature.

- Set outside air temperature limits to control backup heat and heat pump staging
- Wire length can be a maximum of 200 ft (60.9 m) with field supplied 18/2AWG wire
- Operating Ambient Temperature Range: -40° F to 120° F (-40° C to 49° C)
- Wire length 60 ft (18.3 m) in the box



IT Extender

PAC-WHS01E-E

Adding the IT Extender to the indoor unit CN105 connection extends the connection by 50 feet.

- Allows for a CN105 device to be located in a better location for strength or visibility
- Operating Ambient Temperature Range: 40° F to 120° F (-40° C to 49° C)
- Works with kumo station, Wireless Interface 2, and USNAP Interface

CITY MULTI® Controls

Centralized Controllers



EW-C50A

The EW-C50A is the Expansion Controller that operates and monitors up to 50 indoor units via a web browser when added to an AE-C400A Main Central Controller network. A single network, comprised of one central controller and three expansion controllers, can manage and monitor a maximum of 200 different indoor units.

- EW-C50A can be a Master Controller or Expansion Controller
- Master Controller can operate and monitor up to 50 indoor units
- Expansion Controller can expand an AE-C400A to operate and monitor up to 50 additional indoor units through the touch screen or web browser
- Network up to three EW-C50A to one AE-C400A to allow the AE-C400A to manage up to 200 indoor units

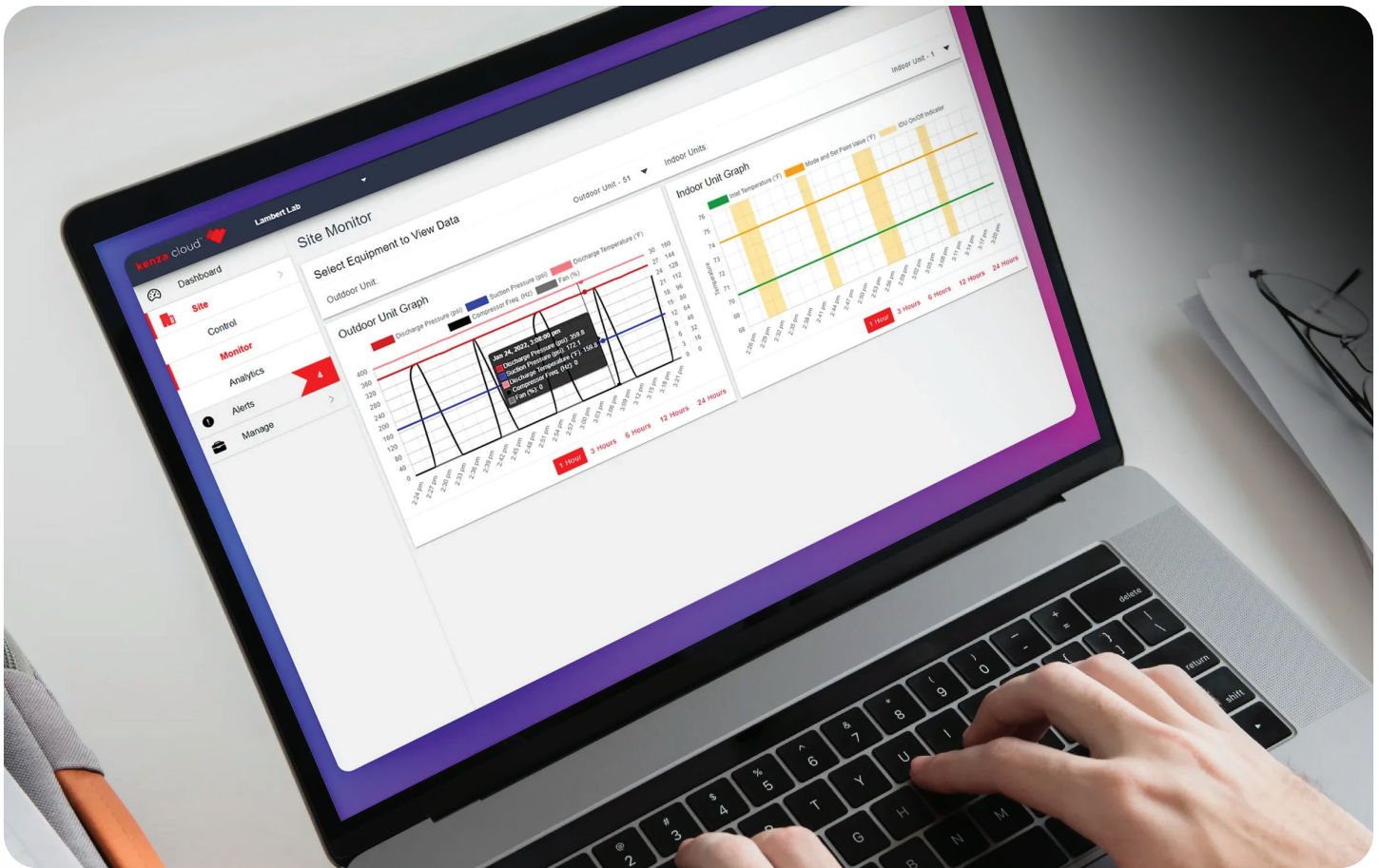


AE-C400A

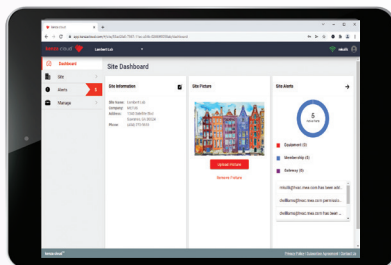
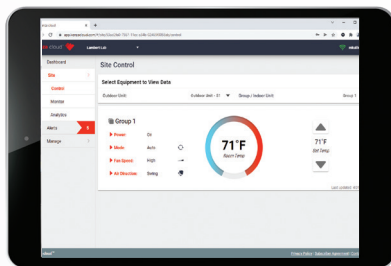
The AE-C400A combines the power of a touch screen with the remote capabilities of an internet browser interface. The AE-C400A is our most capable central controller for managing your CITY MULTI®, P-Series, M-Series, and peripheral systems.

- AE-C400A is the Master Controller
- Master Controller can operate and monitor up to 50 indoor units
- Expansion Controllers can expand an AE-C400A to operate and monitor up to 50 additional
- Network up to three EW-C50A to one AE-C400A to allow the AE-C400A to manage up to 200 indoor units





Commercial Cloud Connected Controls



Mitsubishi Electric's kenza cloud™ delivers seamless control, monitoring, and performance analysis of a building's CITY MULTI® equipment. With kenza cloud, users can remotely access real-time data, schedule operations, connect up to 50 indoor and outdoor units, and input system settings from any internet-enabled device. The intuitive dashboard visualizes energy consumption, identifies inefficiencies, and sends alerts for potential issues, enhancing system maintenance and reliability.



RMD-50A kenza cloud Gateway





mitsubishicomfort.com

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TRANE HVAC US**

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