

# Centralized Remote Controller

One system controller can control up to fifty indoor units from one location. The PAC-SF44SRA also has hardwired connection available (On/Off input, fire alarm input, run output, fault output).

## System remote controller PAC-SF44SRA

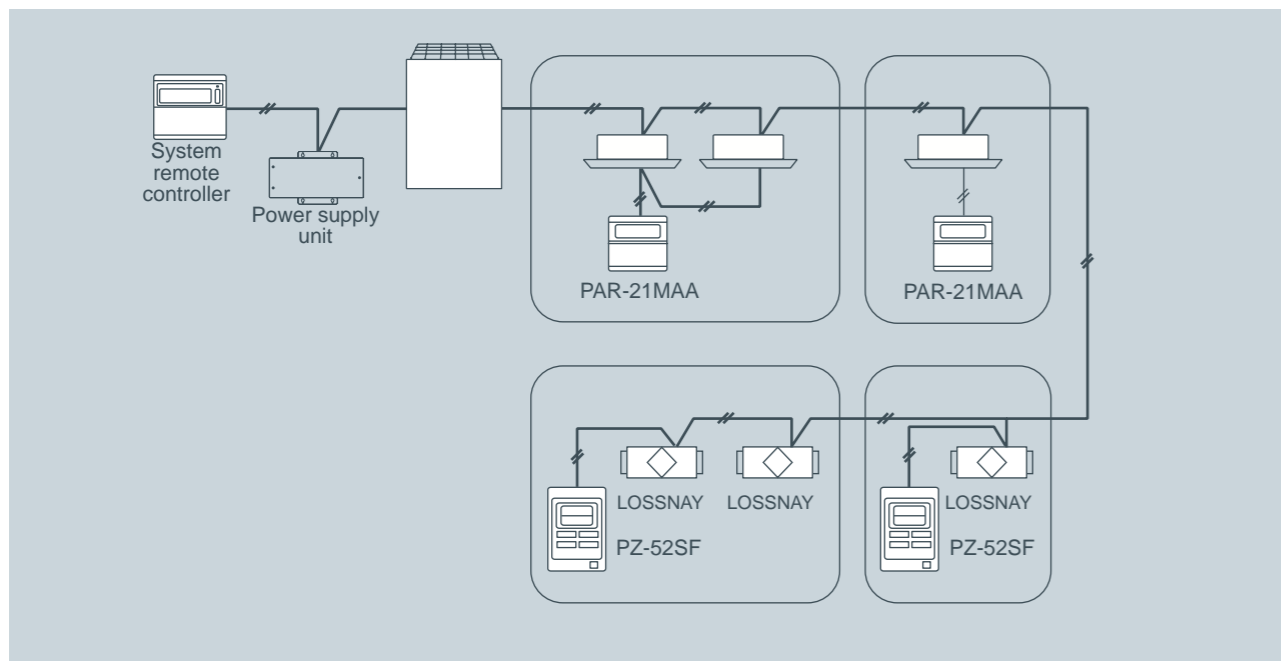


- The group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

System Controller			
FUNCTION	DESCRIPTION	PAC-SF44SRA	
UNITS	Max No.Units	50 units/50 group	
		Operation	Displays
ON/OFF	Run and stop operation	✓	✓
MODE SELECTION	Switches between Cool/Dry/Auto/Fan/Heat. Operation Mode will vary depending on the indoor unit. Auto mode is available with only R2 and WR2 systems	✓	✓
TEMPERATURE SETTING	Sets the groups temperature control. Values in parentheses are for the medium-temperature indoor unit. Cool/Dry:19-30°C [14-30°C] / 67-87°F [57-87°F] Heat :17-28°C [17-28°C] / 63-83°F [63-83°F] Auto :19-28°C [17-28°C] / 67-83°F [63-83°F]	✓	✓
FAN SPEED SETTINGS	Models with 4 air flow speed settings: Hi/Mid-2/Mid-1/Low Models with 3 air flow speed settings: Hi/Mid/Low Models with 2 air flow speed settings: Hi/Low Fan speed setting (including Auto) varies depending on the model.	✓	✓
AIR FLOW DIRECTION SETTING	Air flow angles: 4-angle or 5-angle, Swing, Auto, Louver ON/OFF	✓	✓
PERMIT/PROHIBIT FUNCTION	Run/Stop, Temperature Setting, Mode Selection and Filter Reset functions can be prohibited.	✓	✓
ERROR INDICATION	Displays a 4 digit code and the affected unit address	-	✓
VENTILATION INTERLOCK	Allows the group to be interlocked with a heat recovery Lossnay unit	✓	✓
EXTERNAL INPUT	On/Off/Fire Alarm	✓	-
EXTERNAL OUTPUT	On/Off/Faults	-	✓

• Dimensions:130(W) x 120(H) x 19(D) mm  
:5-1/8(W) x 4-23/32(H) x 3/4(D) in.

### System example



Mitsubishi Electric controllers are complimented by a weekly programmable timer, being able to control up to fifty indoor units. The PAC-YT34STA also has hardwired connection available (On/Off input, fire alarm input, run output, fault output).

## Schedule timer PAC-YT34STA

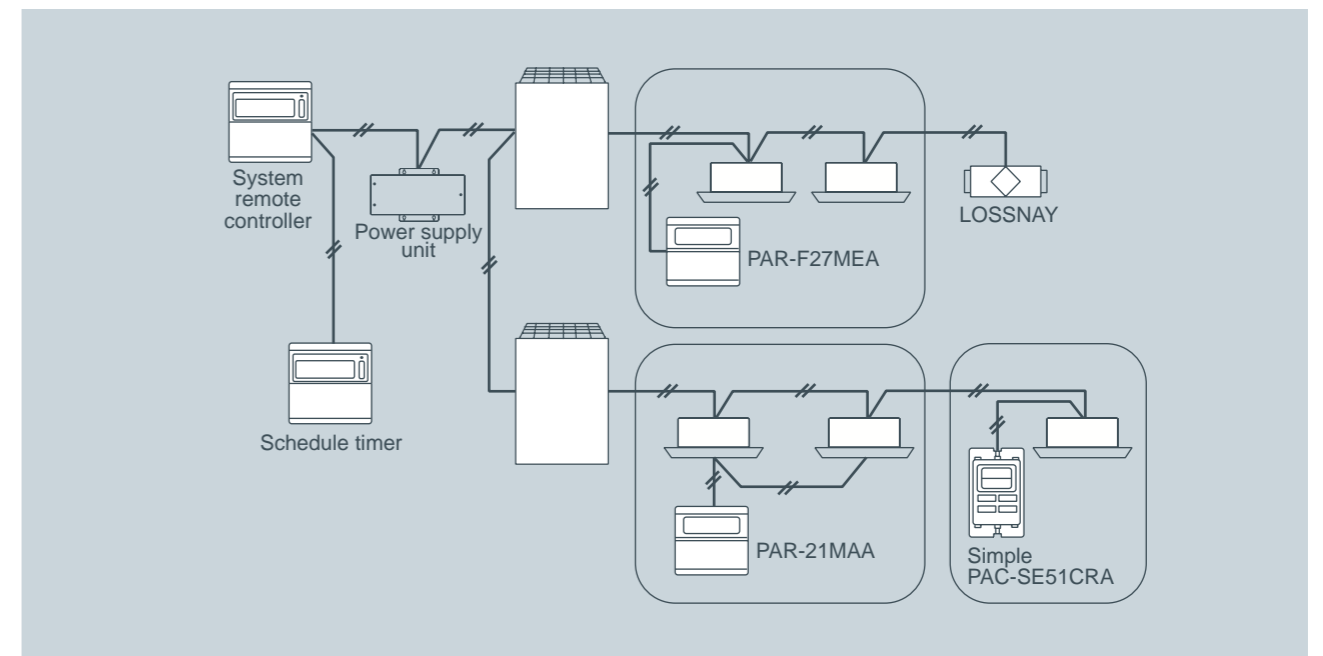


- The schedule group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

Programmable Timer				
FUNCTION	DESCRIPTION	PAC-YT34STA		
UNITS	Max No.Units	50 units/50 group		
		Operation	Displays	
ON/OFF	Run and stop operation	✓	✓	
SCHEDULE FUNCTION	Content	On/Off Mode:Cool/Heat/Auto Set temperature:19°C to 28°C Operation Prohibit: On/Off, Mode, Set temperature	✓	✓
	Number	Weekly timer for each group 9 setting patterns + no setting 16 operations per day	✓	✓
	Unit	5 minutes	-	-
CURRENT TIME	Set the time	✓	✓	
ERROR INDICATION	Displays a 4 digit code and the affected unit address	-	✓	
EXTERNAL INPUT	On/Off/Fire Alarm	✓	-	
EXTERNAL OUTPUT	On/Off/Faults	-	✓	

• Dimensions:130(W) x 120(H) x 19(D) mm  
:5-1/8(W) x 4-23/32(H) x 3/4(D) in.

### System example



# Centralized Remote Controller

Just press a switch to start. All of the units can be On/Off by pressing the main switch, and each unit in the group can be On/Off with individual switch. The PAC-YT40ANRA also has hardwired connection available (On/Off input, fire alarm input, run output, fault output).

## ON/OFF remote controller PAC-YT40ANRA

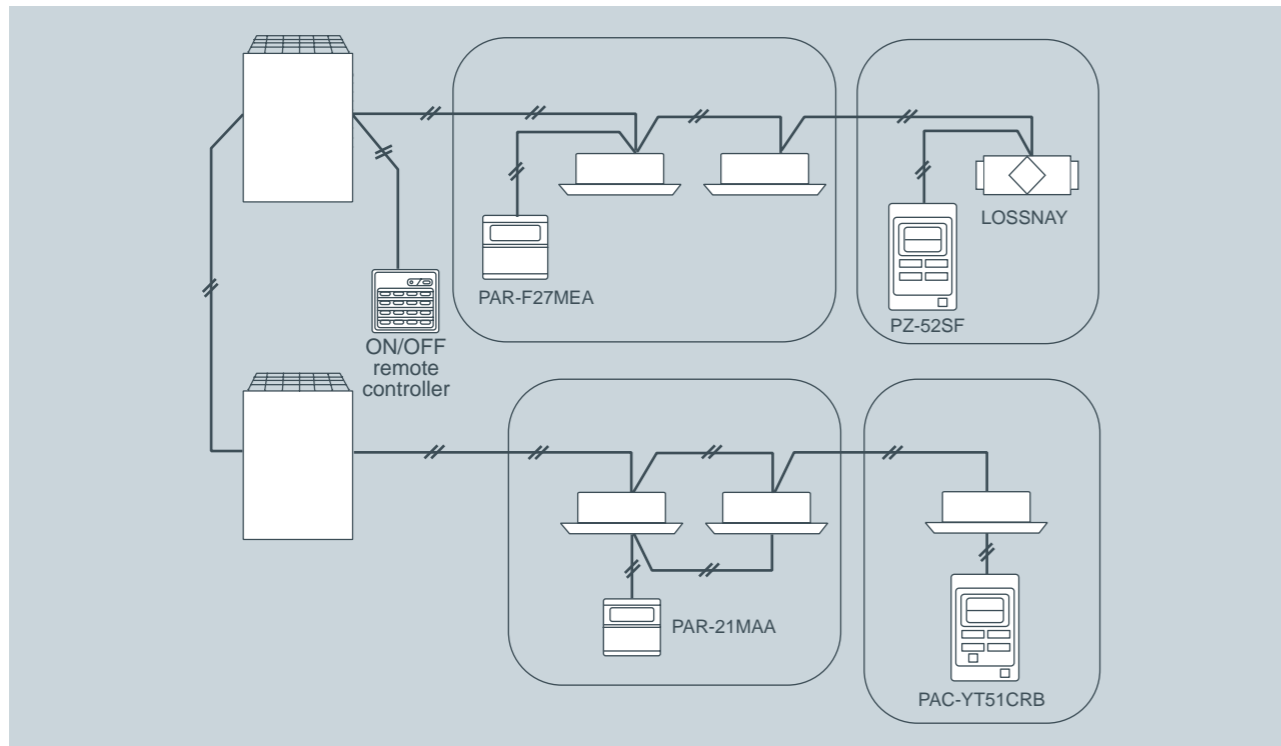


FUNCTION	DESCRIPTION	PAC-YT40ANRA	
		OPERATIONS	DISPLAY
UNITS	Max No.Units	50 units/16 groups	
ON/OFF	Run and stop operation	✓	✓
ERROR INDICATION	LED flashes during failure. (The error code can be confirmed by removing the cover.)	-	✓
VENTILATION OPERATION (INDEPENDENT)	Group operation of only LOSSNAY units possible. *Only ON/OFF of group.	✓	✓
VENTILATION OPERATION (INTERLOCKED)	The LOSSNAY will run in interlock with the operation of indoor unit. *The fan rate and mode cannot be changed. The LED will turn ON only during operation after interlocking.	✓	✓
EXTERNAL INPUT	On/Off/Fire Alarm	✓	-
EXTERNAL OUTPUT	On/Off/Faults	-	✓

• Dimensions:130(W) x 120(H) x 19(D) mm  
:5-1/8(W) x 4-23/32(H) x 3/4(D) in.

- The group setting is kept in nonvolatile memory. No need to worry about re-setting at power failure.
- No individual AC power supply is needed. The power can be supplied from one outdoor unit (R410A) or Power supply unit.

### System example



Up to 8 groups can be operated (maximum of 16 units). Just by pressing PAC-SC30GRA switches, groups can be On/Off as a batch. Suitable for small office and residential project.

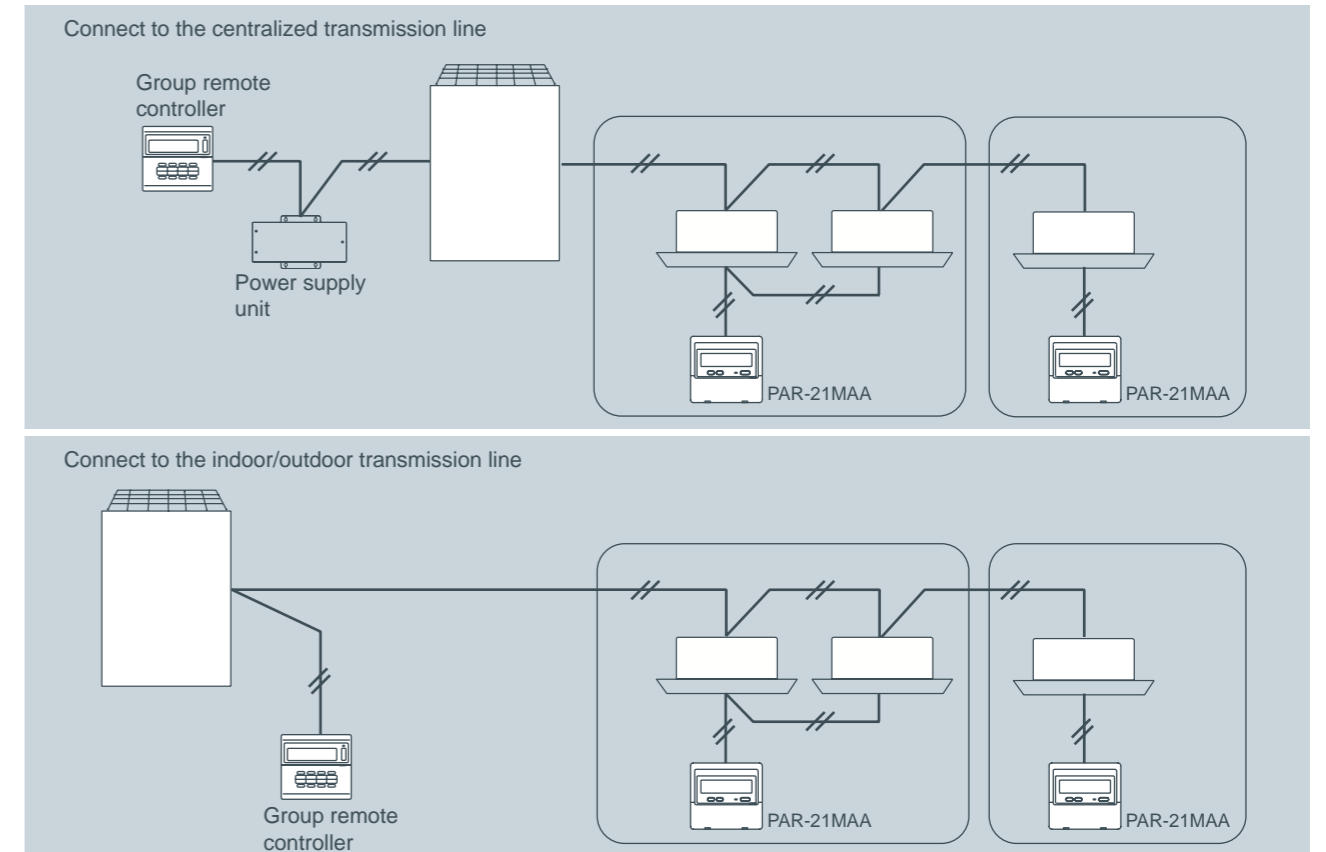
## Group remote controller PAC-SC30GRA



FUNCTION	DESCRIPTION	PAC-SC30GRA	
		OPERATIONS	DISPLAY
UNITS	Max No.Units	16 units / 8 groups	
ON/OFF	Run and stop operation	✓	✓
MODE SELECTION	Switches between Cool/Dry/Auto/Fan/Heat. Operation Mode will vary depending on the indoor unit. Auto mode is available with only R2 and WR2 systems	✓	✓
TEMPERATURE SETTING	Sets the groups temperature control. Cool/Dry:19-30°C Heat:17-28°C Auto:19-28°C	✓	✓
FAN SPEED SETTINGS	4 speed – Hi-Mid2-Mid1-Low, Auto 3 speed – Hi-Mid-Low, Auto 2 speed – Hi-Low	✓	✓
AIR FLOW DIRECTION SETTING	Air flow angles: 4-angle or 5-angle, Swing, Auto, Louver ON/OFF	✓	✓
PERMIT/PROHIBIT FUNCTION	Run/Stop, Temperature Setting, Mode Selection and Filter Reset functions can be prohibited via main system controller	-	✓
INDOOR RETURN AIR TEMPERATURE	Measures the intake temperature of the master unit within the group	-	✓
ERROR INDICATION	Displays a 4 digit code and the affected unit address	-	✓
VENTILATION INTERLOCK	Allows the group to be interlocked with a heat recovery Lossnay unit	✓	✓

• Dimensions:130(W) x 120(H) x 19(D) mm  
:5-1/8(W) x 4-23/32(H) x 3/4(D) in.

### System example



# Centralized Remote Controller

With a new colored touch panel, and continuation of all the G-50A functions, AG-150A visualizes its functions from basic control to advanced operations and bringing an ultimate controller to reality.

## Centralized controller AG-150A

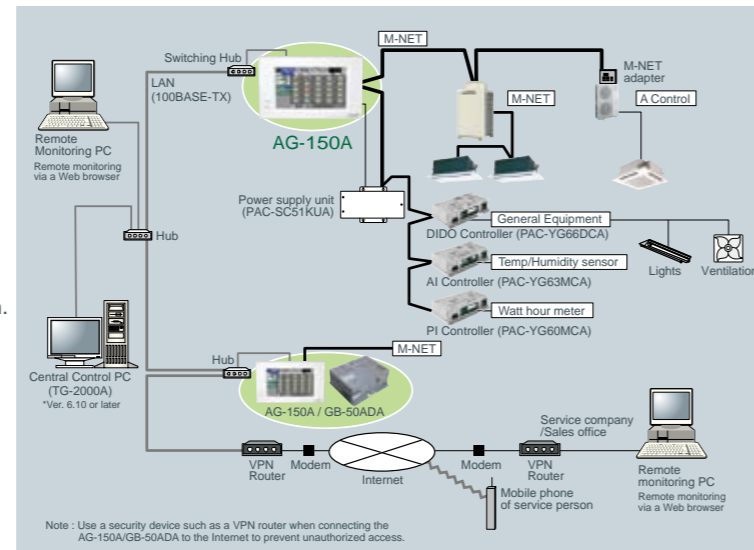


Dimensions: 300(W) x 185(H) x 70.3(D) mm  
: 11-13/16(W) x 7-5/16(H) x 2-13/16(D) in.



Option : Black surface cover  
PAC-YG71CBL

### System structure



Note : Use a security device such as a VPN router when connecting the AG-150A/GB-50ADA to the Internet to prevent unauthorized access.

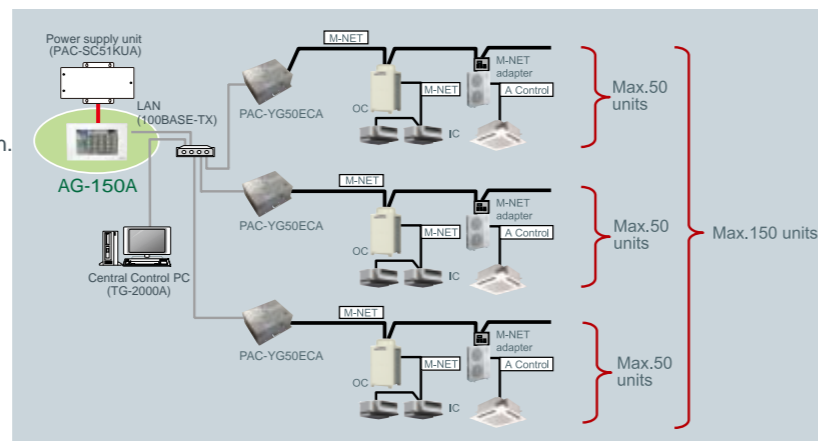
## Expansion Controller PAC-YG50ECA



Dimensions: 250(W) x 217(H) x 97.2(D) mm  
: 9-7/8(W) x 8-9/16(H) x 3-7/8(D) in.

With a connection of a Expansion Controller, maximum of 150 units/groups can be connected to AG-150A.

### System structure



\*Do not connect PAC-YG50ECA to TB3 of the outdoor unit.

\*Use a security device such as a VPN router when connecting the AG-150A etc. to the Internet to prevent unauthorized access.

## New Design

### Backlight color liquid crystal

Backlight makes it easy to see and control units.  
One can identify whether a unit is ON or OFF from a distance.  
Control in the night with no lights is possible.

### Touch panel

9 inch wide, high-resolution  
Touch panel enables operation of units by touching with index finger.  
When object unit is touched, orange box appears around the unit icon indicating the unit selected.

### Flat back

Easy installation  
Allows for an installation of the unit either directly to the wall surface or using the installation hole in the wall.

### USB memory compatible

All measurement/initial setting CSV data extractable with USB memory.  
Can save and overwrite setting data.

## New Functions

### Controllable units/groups

Controls up to 50 units/groups (including indoor units, LOSSNAY, DIDO/AI/PI controller)  
Up to 150 units can be controlled via expansion controller; PAC-YG50ECA (AG-150A software needs to be upgraded)

### Monitoring functions

Temperature/Humidity (using AI controller with WEB browser) \*1  
General equipment such as lights on LCD (using DIDO controller)  
Interlock function from AI controller, DIDO controller to indoor units and between DIDO units are available.  
AG-150A interlock with DIDO controller or free contact on an indoor unit available. \* Ver. 2.30 or later

### Energy saving functions

Seasonal scheduling and automatic switch over \*1  
Yearly scheduling on LCD \*1  
Scheduling fan speed and airflow direction  
Optimized Start up \*1  
External temperature interlock control \*1  
Night setback control \*1  
\*1 License required.

## Functions

Item	Description	Operations	Display
Controllable unit	50 units/groups or 150 units/groups via expansion controller; PAC-YG50ECA.		
ON/OFF	Run and stop operation for the air conditioner units and general equipment. (To operate general equipment, PAC-YG66DCA is required.)	○ ○ △ ●	○ ○
Operation mode switching	Switches between Cool / Dry / Auto / Fan / Heat. (Group of LOSSNAY unit : automatic ventilation/ vent - heat interchange/ normal ventilation) depending on the air conditioner unit. Auto mode is for CITY MULTI R2 and WR2 series only.	○ ○ △ ●	○
Temperature setting	Cool/Dry : 19°C (67°F) - 30°C (87°F) [14°C (57°F) - 30°C (87°F)] Heat : 17°C (63°F) - 28°C (83°F) [17°C (63°F) - 28°C (83°F)] Auto : 19°C (67°F) - 28°C (83°F) [17°C (63°F) - 28°C (83°F)] [ ] in case of using middle-temperature on PDFY, PEFY-VML/VMR/VMS/VMH-by setting DipSW7-1 to ON. Yet, PEFY-P-VMH-E-F is excluded.	○ ○ △ ●	○
Fan speed setting	Models with 4 air flow speed settings: Hi/Mid-2/Mid-1/Low Models with 3 air flow speed settings: Hi/Mid/Low Models with 2 air flow speed settings: Hi/Low Fan speed setting (including Auto) varies depending on the model.	○ ○ △ ●	○
Air flow direction setting	Air flow direction angles, 4-angle or 5-angle Swing, Auto (Louver cannot be set)	○ ○ △ ●	○
Schedule operation	Weekly schedule can be set by groups based on daily operation pattern.	○ ○ △ ●	○
Permit / Prohibit local operation	Individually prohibit operation of each local remote control function (Start/Stop, Change operation mode, Set temperature, Reset filter).	○ ○ △ ●	○
Indoor unit intake temperature	Measures the intake temperature of the indoor unit only when the indoor unit is operating.	×	○
Error	When an error is currently occurring on an air conditioner unit, the afflicted unit and the error code are displayed.	×	□ ○
Test run	This operates air conditioner units in test run mode.	○ ○ △ ●	○
Ventilation interlock	The ventilation unit (LOSSNAY) is able to automatically start its operation when operation of the interlocked indoor unit starts.	○ ○ △ ●	○
External input/output	By using optional external input/output adaptor (PAC-YG10HA) you can set and monitor the following. Input : By level signal : "Batch start/stop", "Batch emergency stop" By pulse signal : "Batch start/stop", "Enable/disable local remote controller" Output : "Start/stop", "Error/Normal"	○	○

\*NOTE: Operation and displayed content vary depending on the indoor unit model.  
Future release schedule is subject to change without notice.

## Centralized controller GB-50ADA

New



GB-50ADA (without display)

- Dimensions: 250 (W) x 217 (H) x 97.2 (D) mm  
: 9-7/8 (W) x 8-9/16 (H) x 3-7/8 (D) in.

The Web Server Function enables Remote Operation or Scheduling Via a Web Browser on a Personal Computer!  
Up to 50 indoor units can be controlled!

### Web Browser

Enables monitoring and operation of indoor units using a PC with Microsoft® Internet Explorer (Ver.6 or 7 or 8) (Web browser function is an optional and needs license registration for -J type.)

\*When connecting to the Internet, please use the VPN (Virtual Private Network).

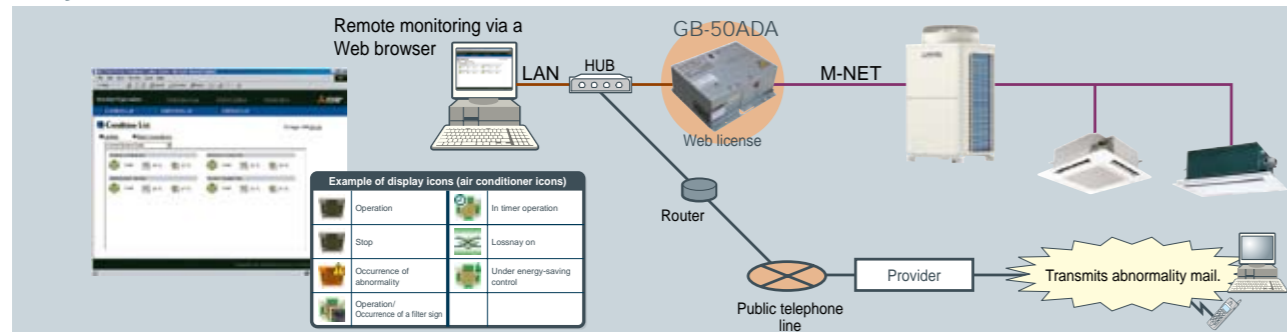
### Using "Dial-up Connection"

- Enables monitoring and operation from a remote place
- Enables error notification by e-mails to a PC or to a mobile phone

Function	Description
	<b>GB-50ADA (web browser)</b>
Controllable unit	Up to 50 units/groups.
Dimensions W x H x D	250 (9-7/8) x 217 (8-9/16) x 97.2 (3-7/8) mm (in)
ON / OFF	Run and stop operation for the air conditioner units
Mode selection	Switches between Cool / Dry / Auto / Fan / Heat.
Temperature setting	Range of temperature setting Cool/Dry : 19-30°C [14-30°C] / 67-87°F [57-87°F] Heat : 17-28°C [17-28°C] / 63-83°F [63-83°F] Auto : 19-28°C [17-28°C] / 67-83°F [63-83°F] ( ) in case of using middle-temperature on PEFY, PEFY-VML/VMR/VMS/MH-by setting DipSW7-1 to ON. Yet, PEFY-P-VMH-E-F is excluded. *Range of temperature settings vary depending on model.
Air flow direction setting	Air flow direction angles, 4-angle or 5-angle Swing, Auto (Louver cannot be set)
Timer operation / Schedule	Annual/Weekly (2 types)/today schedule can be set for each group of air conditioning units. Optimized startup setting is also available.
Permit / Prohibit function	Individually prohibit operation of each local remote control function
Indoor unit intake temperature	Measures the intake temperature of the indoor unit only when the indoor unit is operating.
Error	When an error is currently occurring on an air conditioner unit, the afflicted unit and the error code are displayed.
Test run	-
Ventilation interlock	Operation of indoor groups or general equipment can be interlocked by the change of state (ON/OFF, mode, error of indoor groups and general equipment).

\*NOTE: Operation and displayed content vary depending on the indoor unit model.

### System Structure



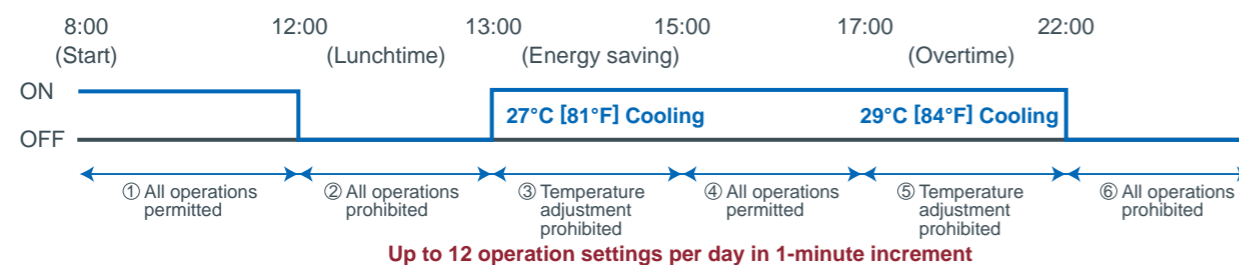
### Annual / Weekly Schedule

Enables Weekly and Annual scheduling with a registering license

- ON/OFF, operation mode, temperature setting, prohibit remote controller operation can be set.
- For annual schedule, it is possible to set 50 day-long settings up to 24 months into the future.



### Scheduling example in the office



## Centralized Remote Controller

### PI Controller PAC-YG60MCA



Dimension: 200(W) x 120(H) x 45(D) mm  
: 7-7/8(W) x 4-3/4(H) x 1-13/16(D) in.

No more PLCs are needed!

Our new PI controller makes it possible to perform energy saving without PLC, which is cost saving. Maximum of 4 measurement meter (WHM, gas meter, water meter, calorie meter) can be connected to the PI controller and can be used also for charge calculation.

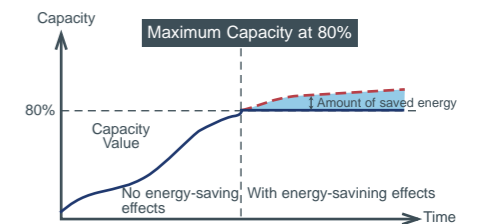
\*24 VDC power needs to be provided on site.

### Energy Saving Control

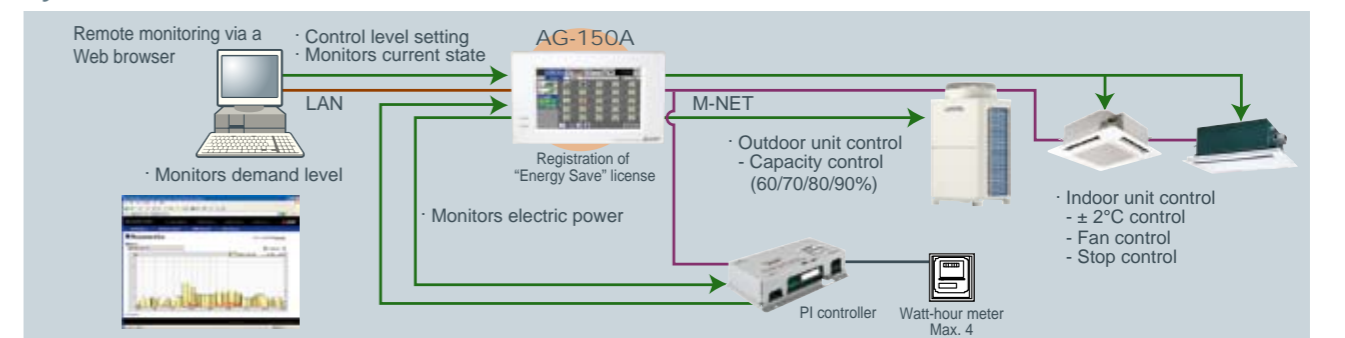
Enables Energy Saving Control with the use of our new PI controller. (Registration of "Energy Save" licence is required.)

To perform energy saving, the capacity of the outdoor unit is controlled.

\*Please note that when using an energy saving control, there are no warranties to failures such as usage over the contracted electricity.



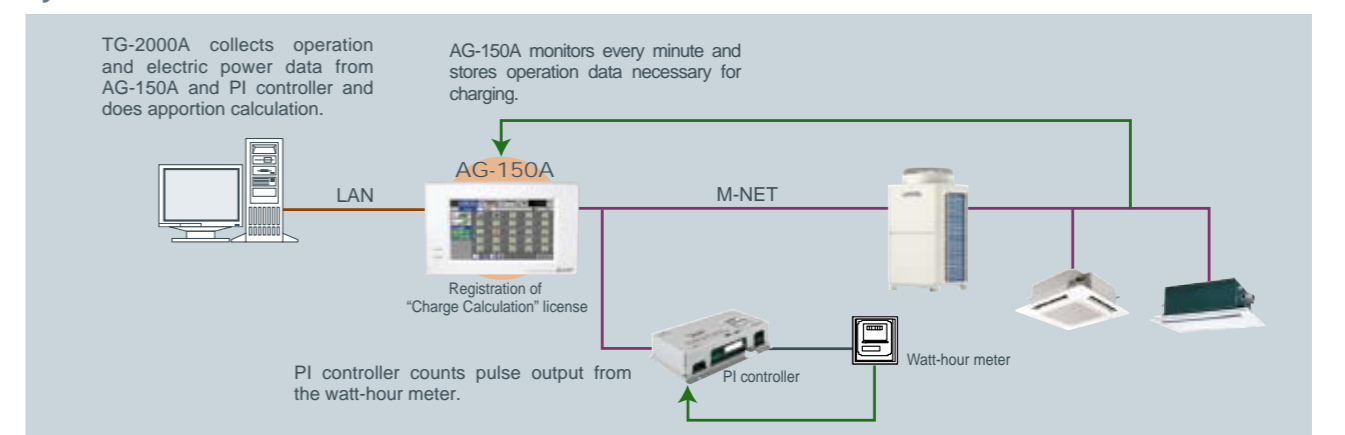
### System Structure



### Charge Calculation

Enables charge calculation for each tenant and output as CSV file

### System Structure



# Centralized Remote Controller

## DIDO Controller PAC-YG66DCA



Dimension: 200(W) x 120(H) x 45(D) mm  
: 7-7/8(W) x 4-3/4(H) x 1-13/16(D) in.

**No more PLCs are needed!**  
Our new DIDO controller makes it possible to control general-purpose equipment without PLC, which is cost saving. Up to 6 general-purpose equipment can be connected to the DIDO controller.

\*24 VDC power needs to be provided on site.

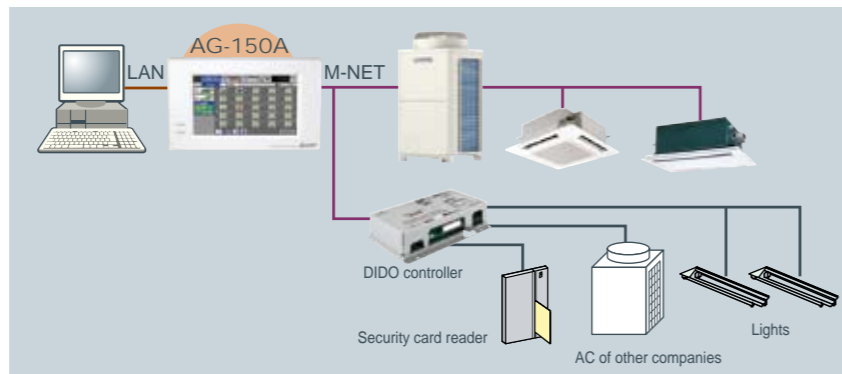
### General-purpose equipment Control

Enables to control and monitor equipment other than air-conditioners (air-conditioners of other companies, lights, ventilators, etc.)

- In addition to above, the air-conditioners can be interlocked with general-purpose equipment. E.g. Interlock between indoor units and security system.
- The indoor units can be turned ON/OFF when the security system is activated/deactivated.



### System Structure



## AI Controller PAC-YG63MCA



Dimension: 200(W) x 120(H) x 45(D) mm  
: 7-7/8(W) x 4-3/4(H) x 1-13/16(D) in.

**Our new AI controller makes it possible to monitor the values measured by the temperature/humidity sensor connected to the AI controller.**

The AI controller has two input and two output channels.

\*24 VDC power needs to be provided on site.

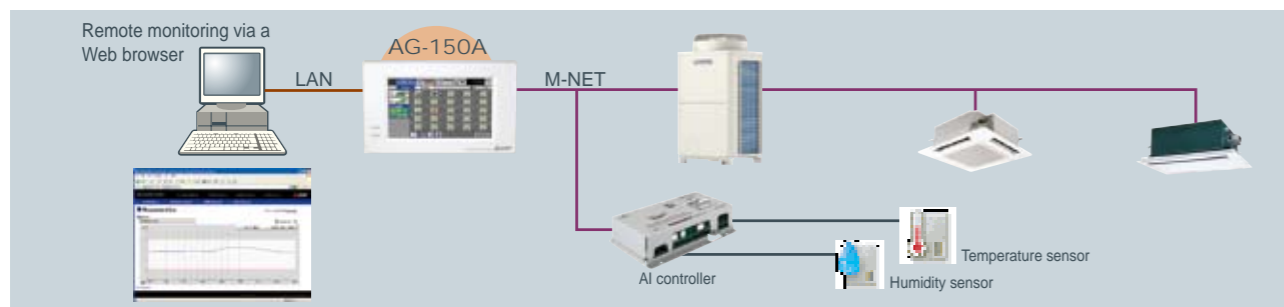
### Temperature/Humidity Monitoring

Monitors the values measured by the temperature/humidity sensor connected to the AI controller

Temperature : Pt100, 4 to 20mA DC, 1 to 5 VDC, 0 to 10 VDC  
Humidity : 4 to 20mA DC, 1 to 5 VDC, 0 to 10 VDC

- Trend displays of measurement data can be shown on a Web browser.
- An alarm can be output by e-mail when measurement data exceeds a preset upper or lower limit.

### System Structure



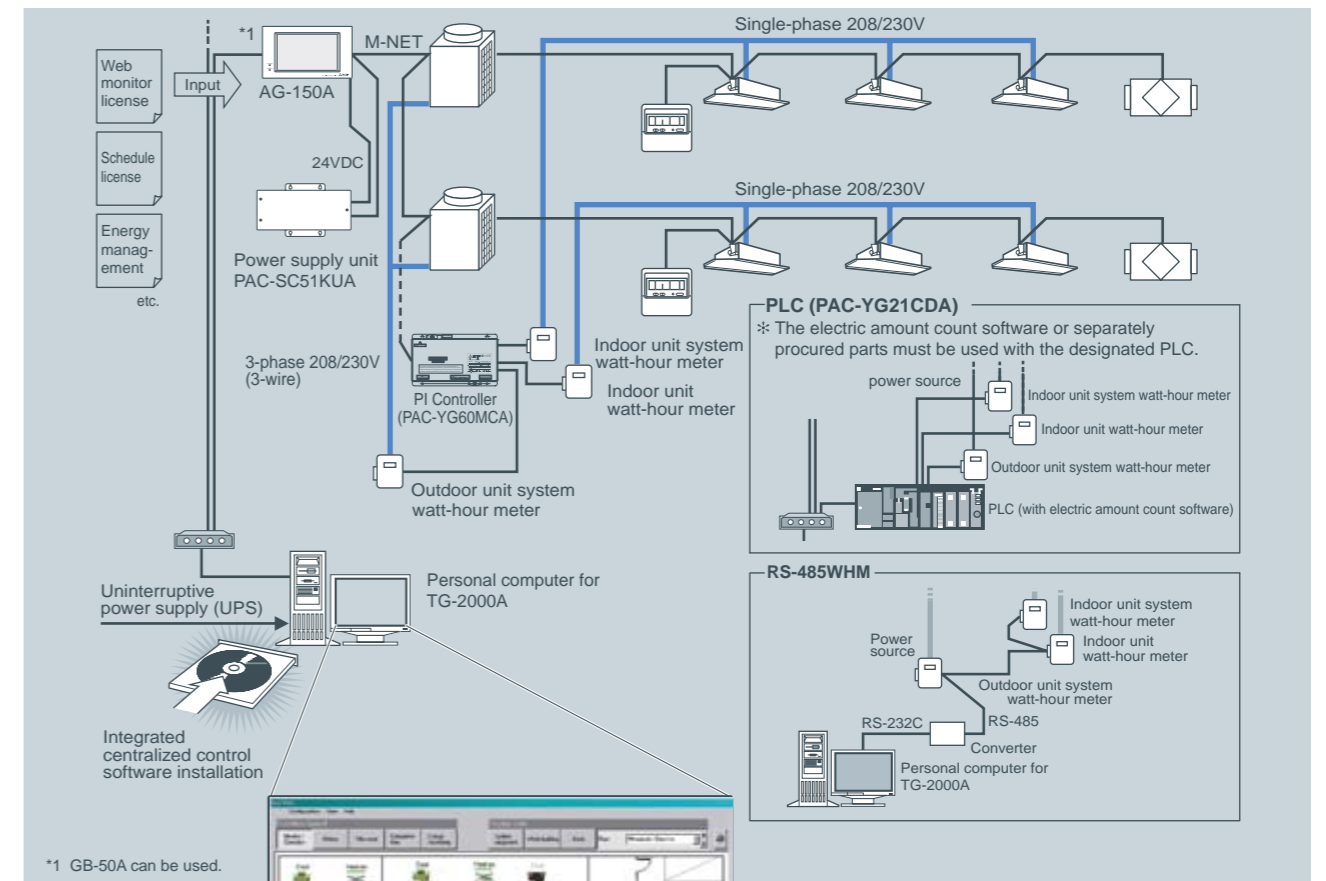
Remote Controller

## Integrated centralized control software TG-2000A

**Up to 150 units can be controlled by AG-150A.\***

\*Expansion controller is required.

### Example of Basic System Configuration



\*1 GB-50A can be used.



The air-conditioning layout can be displayed on the screen, making control and operation easier.

### Effective use of TG-2000A

Multiple air conditioning in multiple buildings can be calculated. The power apportionment percentage data and apportioned power rate can be calculated for each unit, and can be output as a CSV file.



For example, installing TG-2000A to the system in the headquarters makes it possible to control AG-150A/GB-50ADA\* units that are used in branch offices.

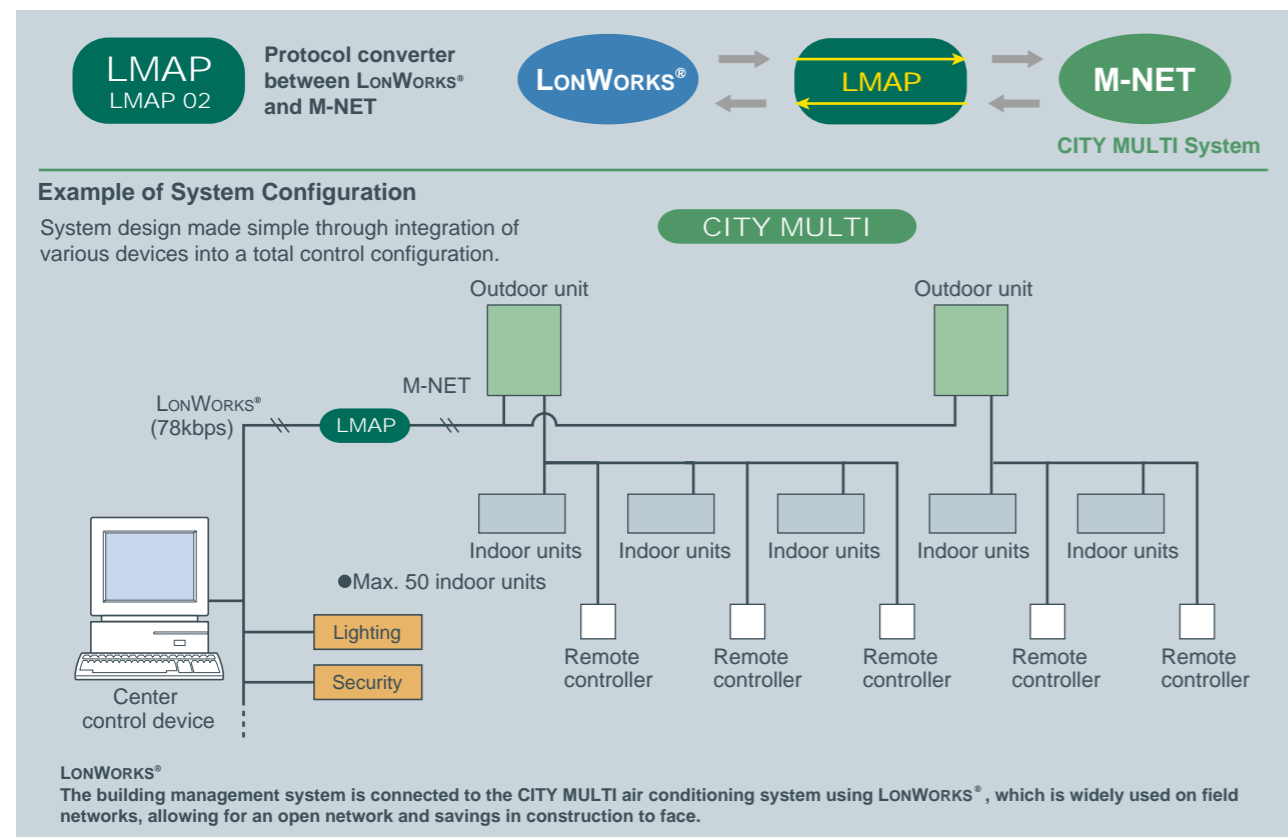
\*It is planned that GB-50ADA will be supported on TG-2000A Ver. 6.3\* or later.

## LonWorks® (LMAP02)

CITY MULTI can easily combine into a Building Management System (BMS) via the LonWorks® and M-NET adapter LMAP02. LonWorks® is an opened transmission protocol widely used at BMS, and related equipment control. CITY MULTI is therefore compatible with large-scaled BMS management via LonWorks®.

**One LM ADAPTER unit can connect up to 50 Groups/50 indoor units.**

Using a single LonWorks® adapter (LM ADAPTER), you can connect up to a maximum of 50 indoor units.



Lon, LonWorks® and the Echelon logo are trademarks of Echelon Corporation registered in the United States and other countries.

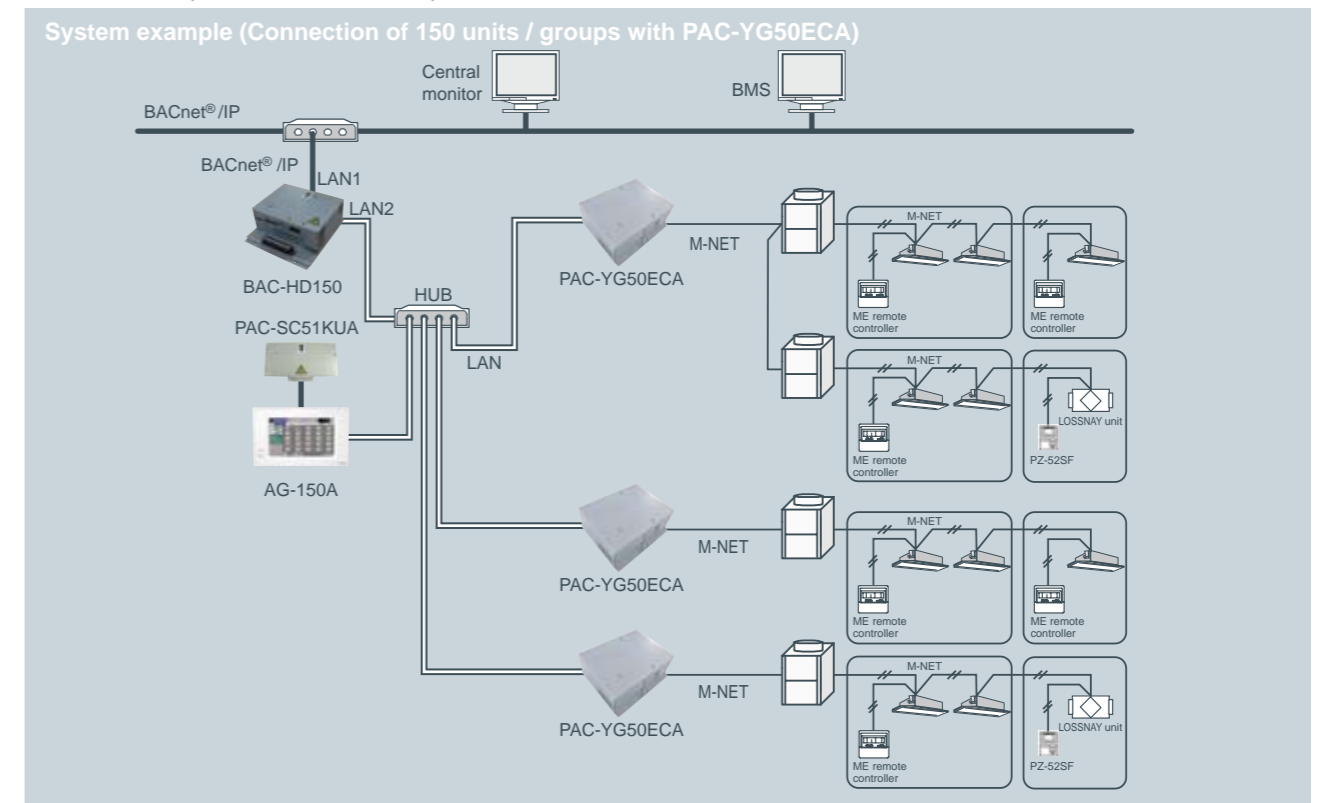
LonWorks® INTERFACE	
FUNCTION	CONTENT
<b>Control</b>	
ON/OFF	Run/Stop
MODE OPERATION	Cooling/Drying/Heating/Auto/Fan
SETPOINT ADJUSTMENT	Cooling 19-30°C, Heating 17-28°C, Auto 19-28°C
FAN SPEED CONTROL	Lo-Mi1-Mi2-Hi
PERMIT / PROHIBIT	On/Off, Mode, Setpoint
EMERGENCY STOP	-
<b>Monitoring</b>	
ON/OFF	Run/Stop
MODE	Cooling/Drying/Heating/Auto/Fan
SETPOINT	Cooling 19-30°C, Heating 17-28°C, Auto 19-28°C
FAN SPEED	Lo-Mi1-Mi2-Hi
PERMIT / PROHIBIT	On/Off, Mode, Setpoint
ALARM STATE	-
ROOM TEMPERATURE	-10°C~50°C
THERMO ON/OFF	On/Off

## BACnet® and M-NET adapter (BAC-HD150)

CITY MULTI can easily combine into a Building Management System (BMS) via the BACnet® and M-NET adapter BAC-HD150. BACnet is an opened transmission protocol widely used at BMS, and related equipment control. CITY MULTI is therefore compatible with large-scaled BMS management via BACnet.

**BAC-HD150 can control up to 50 units/groups (including LOSSNAY).**

**Up to 150 units/groups (including LOSSNAY) can be controlled from one BAC-HD150 with three expansion controllers PAC-YG50ECA. (50 units/PAC-YG50ECA)**



## BACnet® and M-NET adapter

FUNCTION	CONTENT
<b>Operation</b>	
ON/OFF	Run/ Stop
Mode	Cool/ Dry/ Heat/ Auto/ Fan
Fan Speed	Low-Mid1-Mid2-Hi
Airflow Direction	Horizontal- 60°-80°-100°swing
Set Temperature	Cooling 19-30°C [67-87°F], Heating 17-28°C [63-83°F], Auto 19-28°C [67-83°F]
Filter Sign reset	Normal/ Reset
Permit/ Prohibit	ON/OFF, Mode, Filter sign reset, Set temp.
Forced OFF	Release/ Effective
<b>Monitoring</b>	
ON/OFF	Run/ Stop
Mode	Cool/ Dry/ Heat/ Auto/ Fan
Fan Speed	Low-Mid1-Mid2-Hi
Air direction	Horizontal- 60°-80°-100°swing
Set Temperature	Cooling 19-30°C [67-87°F], Heating 17-28°C [63-83°F], Auto 19-28°C [67-83°F]
Filter sign	Normal/ Reset
Permit/ Prohibit	ON/OFF, Mode, Filter sign reset, Set temp.
Indoor temperature	-
Alarm signal	Normal/ Abnormal
Error code	2 Character code- Indicates all unit alarms
Communication state	Normal/ Abnormal