



# Control Systems

## <Individual control>

### Remote Control line up (except SAF)

	indoor unit	remote control		indoor unit	remote control	indoor unit	remote control
wired	all models	RC-E4	wireless	FDT	RCN-T-36W-E	FDK22-56	RCN-K-E
		RCH-E3		FDT	RCN-TC-24W-ER	FDK71	RCN-K71-E
				FDE	RCN-E-E	others	RCN-KIT3-E

### Wired remote control with weekly timer (option)

#### RC-E4



The RC-E4 controller enables extensive access to service and maintenance technical data combined with easy to use functions and a clear LCD display.

#### Run hour meters to facilitate maintenance checking

RC-E4 stores operation data when an anomaly occurs and indicates the error on the LCD. It also displays cumulative operation hours of the air conditioner and compressor since commissioning.

#### Room temperature controlled by the remote control sensor

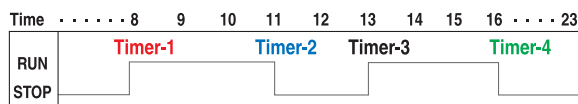
The temperature sensor is housed in the top section of the remote control unit. This arrangement has improved the sensitivity of the remote control unit's sensor, which permits more finely controlled air conditioning.



#### Weekly timer function as standard

RC-E4 provides (as a standard feature) a weekly timer, which allows one-week operation schedules to be registered. A user can specify up to four times a day to start/stop the air conditioner. (Temperature setting is also possible with the timer).

#### Timer operation



#### Changeable set temperature ranges

RC-E4 allows the upper and lower limits of a set temperature range to be specified separately. By adjusting a set temperature range, you can ensure energy saving air conditioning by avoiding excessive cooling or heating.

Changeable range	
Upper limit	20-30°C(effective for heating operation)
Lower limit	18-26°C(effective for non-heating operation)

### Simple remote control (option)

#### RCH-E3 (wired)



Considering specialized usage in hotel rooms, control buttons are limited only to minimum required functions such as ON/OFF, mode, temperature setting and fan speed. It is really simple and easy to use.

#### Up to 16 units

It can control up to 16 units individually, with pressing the AIR CON No. button.

#### AUTO restart

This function allows starting the air conditioner automatically when power supply is restored after power failure or by turning on the power switch.

\* RCH-E3 is not applicable to the Individual flap control system and the Flap control system.  
\* When RCH-E3 is used, the fan speed setting can only be set to 3 speed settings (Hi-Me-Lo).

### Thermistor (option)

#### SC-THB-E3

In case sensor in the indoor units or the remote control sensor can not sense the room temperature correctly, or individual remote control in each room is not required but only sensor is required (as when center control system is in place), install SC-THB-E3 at proper place in the rooms.



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### Wireless remote control (option)

For wireless control simply insert the infra-red receiver kit on a corner of the panel

#### RCN-T-36W-E, RCN-TC-24W-ER



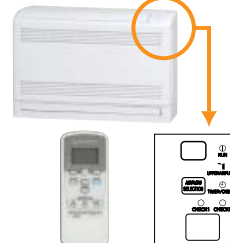
#### RCN-E-E



#### RCN-K-E, RCN-K71-E



#### RCN-FW-E



#### RCN-KIT3-E

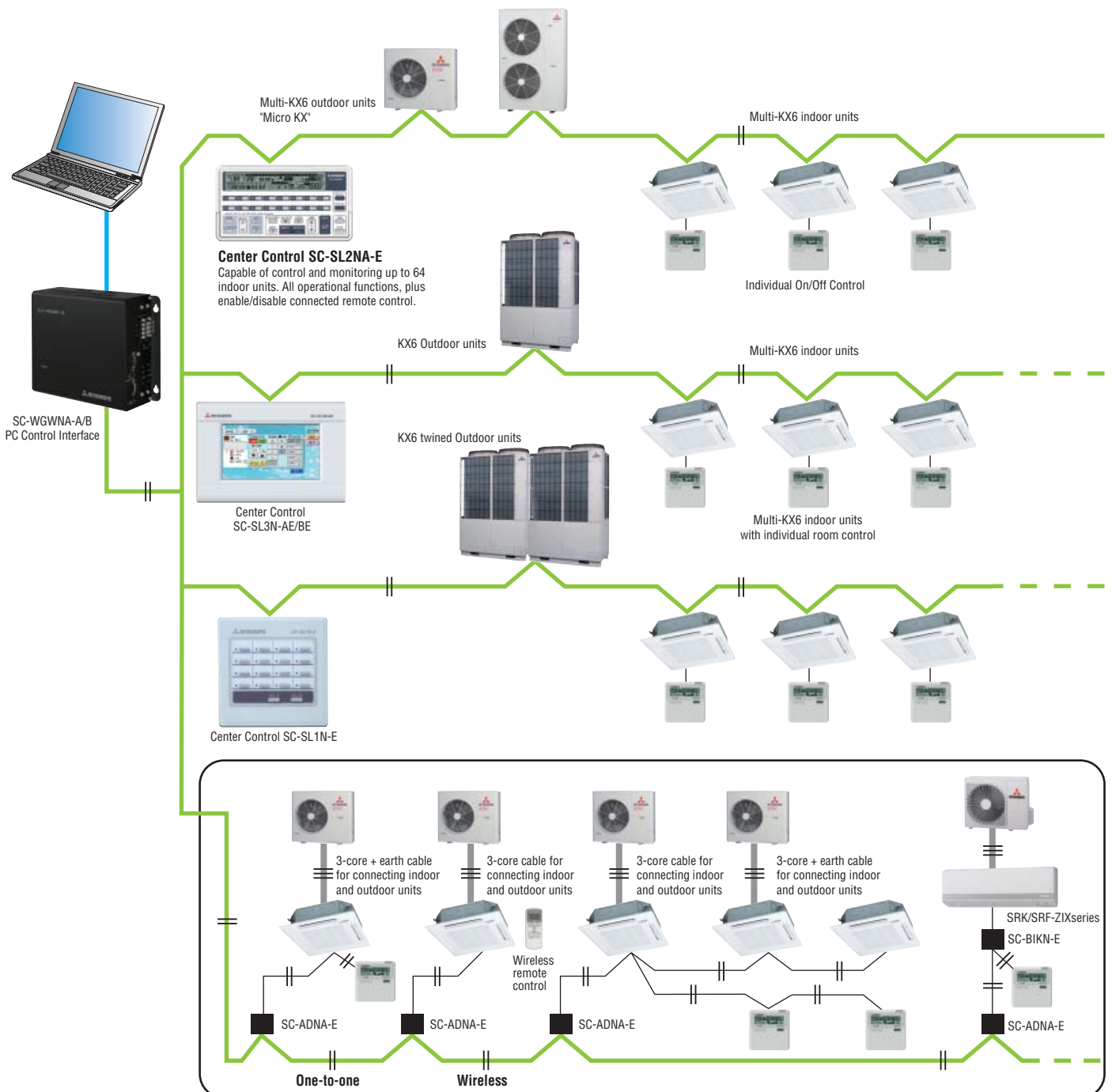


\* When the wireless remote control is used, the fan speed setting can only be set to 3 speed settings (Hi-Me-Lo).

# <Control System> SUPERLINK-II

MHI has now combined simplicity of installation with our highly sophisticated Superlink-II control system, to offer building owners and occupiers a comprehensive control and management system, while providing complete commissioning and service maintenance assistance for installers and service engineers. The Superlink-II network utilises two wire, non-polar cable - for further details of wiring.

Superlink-II is an advanced high speed data transmission system that can connect up to 128 indoor units and 32 outdoor units as a network. MHI offers a wide range of control options for the Superlink-II network to suit any application large or small, as well as connection to new or existing building management systems. Individual MHI split systems can also be integrated on to the Superlink-II network using SC-ADNA-E.





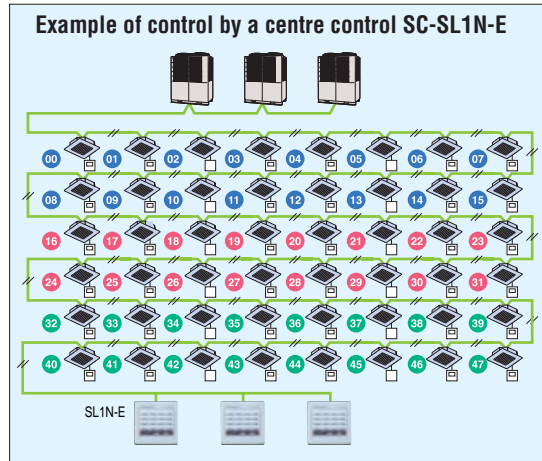
# <Central Control>

## SC-SL1N-E

Start/stop control of up to 16 indoor units either individually or collectively.

Simple centralised control.

1. The SC-SL1N-E is connected to the Superlink-II network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to 16 units, with the sixteen operation button.
3. The unit or group numbers in operation or in need of service are displayed with an LED.
4. Collective start/stop is also available through the simultaneous on/off button.
5. Up to 12 SC-SL1N-E units can be connected to a Superlink-II network (consisting of up to 128 indoor units).
6. If a power failure occurs, the SC-SL1N-E will resume the operation of the system according to a stored operation condition, once power is restored.



More than one unit (up to 16) can be controlled for individual or collective start/stop operation and indication of unit statuses such as in operation or in need of service.

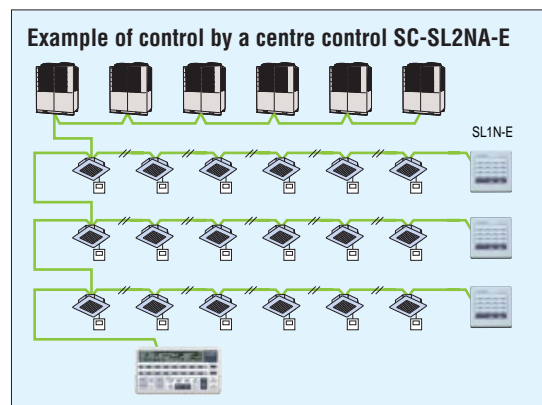
• Outer dimensions: H120 x W120 x D15+62\*mm.

62\* is the measurement including the part contained in a recess.

## SC-SL2NA-E

Central control of up to 64 indoor units including weekly timer function as standard.

1. The SC-SL2NA-E is connected to the Superlink-II network via 2-core, non-polar wires ('AB' connection).
2. It will monitor and control the start/stop function of up to 16 units, or 16 groups of units, with the sixteen operation buttons.
3. It also monitors and controls the following functions for individual units, groups of units or the complete network: operation mode, set point temperature, return air temperature, louvre position, error code. Air flow and center lock function.
4. The unit or group numbers in operation or in need of service are displayed with an LCD.
5. Collective start/stop is also available through the simultaneous on/off button.
6. If a power failure occurs, the SC-SL2N-E will resume the operation of the system according to a stored operation condition, once power is restored.
7. The SC-SL2NA-E can be connected to an external timer to facilitate timed on/off cycles.
8. The number of units connected to one network are detailed on the table below.



An SC-SL2NA-E performs the start/stop control, monitoring and mode setting of up to 64 units. It is a high quality air conditioner control system that allows up to 64 indoor units to be freely grouped into 1 to 16 groups. It allows not only the start/stop control but also the monitoring, display of operation statuses such as in operation or in need of service and mode setting such as switching of operation modes of connected units collectively, by group or individually.

• Outer dimensions: H120 x W215 x D25+35\*mm.

35\* is the measurement including the part contained in a recess.

### Combination of Center Control and BMS interface unit

	SC-SL1N-E	SC-SL2NA-E	SC-SL3N-AE/BE	SC-WGWN-A/B	SC-BGWN-A/B	SC-LGWN-A
SC-SL1N-E	Yes(*1)	Yes(*1)	Yes(*1)	Yes(*2)	Yes(*2)	Yes(*2)
SC-SL2NA-E	Yes(*1)	Yes(*1)	Yes(*1)	Yes(*2)	Yes(*2)	Yes(*2)
SC-SL3N-AE/BE	Yes(*1)	Yes(*1)	Yes(*1)	Yes(*2)	Yes(*2)	Yes(*2)
SC-WGWN-A/B	Yes(*2)	Yes(*2)	Yes(*2)	No	No	No
SC-BGWN-A/B	Yes(*2)	Yes(*2)	Yes(*2)	No	No	No
SC-LGWN-A	Yes(*2)	Yes(*2)	Yes(*2)	No	No	No

(\*1) Number of units in combination of SC-SL1N-E, SC-SL2NA-E and SC-SL3N-AE/BE

(\*2) Number of units in combination of SC-WGWN-A/B, SC-BGWN-A/B, SC-LGWN-A, SC-SL3N-AE/BE, SC-SL2NA-E and SC-SL1N-E

SC-SL3N-AE/BE	Connectable number of controls in one superlink-II network									
	0		1			2				
SC-SL2NA-E	0	1-2	3-4	5-8	0-2	3-4	5-8	0-2	3-4	5-8
SC-SL1N-E	12	8	4	0	8	4	0	8	4	0

Regarding previous Superlink, refer to Technical Manual '06 SC-T-111, '08 SC-T-119.

Connectable number of controls in one superlink-II network			
SC-WGWN-A/B or SC-BGWN-A/B or SC-LGWN-A	SC-SL1N-E	SC-SL2NA-E	SC-SL3N-E-AE/BE
1	0-4	0-1	0-1

Regarding previous Superlink, refer to Technical Manual '06 SC-T-111, '08 SC-T-119.

# SC-SL3N-AE/BE

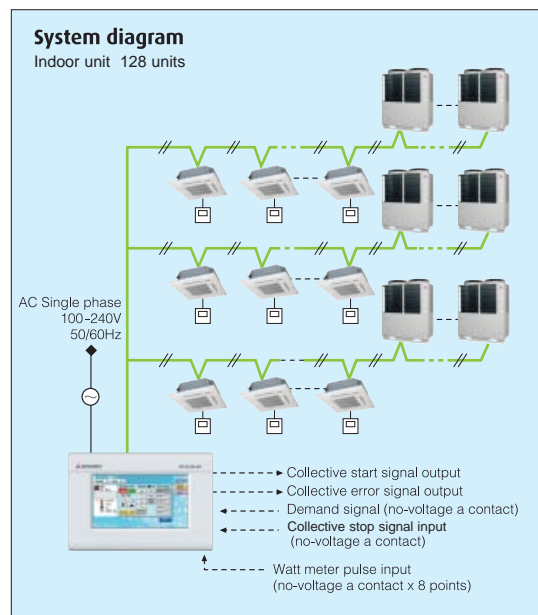
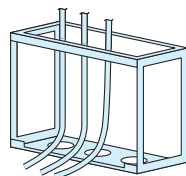
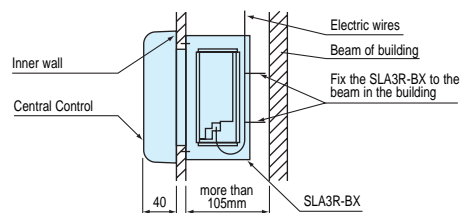
MHI introduces the full colour touch screen central control SC-SL3N-AE/BE, with 7 inch interactive LCD display. Offers control, monitoring, scheduling and service/maintenance functions for up to 128 indoor units.

Indoor units can be controlled, scheduled, monitored and interrogated either individually, as groups or as blocks of groups with the following functions:



## SLA3R-BX Control Box (option)

In case SC-SL3N-AE/BE is fixed in the wall, use SLA3R-BX as optional parts.



Control	Monitoring	Scheduling	Administration/Service
Run/Stop	Operating state	Yearly schedule	Block definition
Mode (cool/heat/fan)	Mode	Today's schedule	Group definition
Set temperature	Set temperature	Special day schedule	Unit definition
Operation permitted/prohibited	Room temperature		Time and date setting
Fan speeds	Operation enabled		Alarm history
Air direction	Fan speed		Energy consumption calculation period
Filter reset	Air direction		Energy consumption cumulative operation time
Filter sign			
Maintenance (1, 2 or back-up)			Demand control
Breakdown			Emergency stop
			Power failure recovery control

## Electric power calculation function:

(for SC-SL3N-BE only)

SC-SL3N-BE gives outputs as "electric power consumption kW data -each indoor unit, each group, each SUPERLINK-II system and each power pulse system-" and uses USB memory.

The data can be edited by using the software that comes with the unit.



	SC-SL3N-BE
Method of data saving	USB
Calculation software	Standard
Air-conditioner power proportional distribution pulse input	8 systems
Connecting indoor units number (Maximum)	128

Item	Model	SC-SL3N-AE/SC-SL3N-BE
Ambient temperature during use		0 ~ 40°C
Power supply		1 Phase 100-240V 50/60Hz
Power consumption		18W
External dimensions (Height x Width x Depth)		162mm x 240mm x 108mm
Net weight		2.0kg
Number of connectable units (indoor units)		up to 128 units
LCD touch panel		Colour LCD, 7 inches wide
Inputs	SL (Superlink) signal inputs	3 systems
	Gas, Power pulse input*	8-point pulse width 100ms or more
	Emergency stop signal input*	1 point non-voltage a contact input continuous input (closed, forced stop)
	Demand signal input*	1 point non-voltage a contact input continuous input (closed, demand control)
Outputs	Simultaneous operation output	1 point maximum rated current 40mA, 24 V During full stop; Open. If even one unit is operating; Closed
	Simultaneous error output	1 point maximum rated current 40mA, 24 V Normal; closed. If even one unit is abnormal; Open

\* The receiving side power supply is DC 12V (10mA).

The air conditioning charges calculations of this unit are based on OIML, the international standard.

\* In case embodying in a wall, please be sure to special box SLA3R-BX (option).



## <PC windows central control>

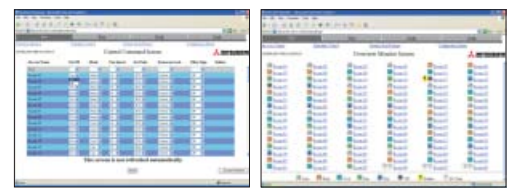
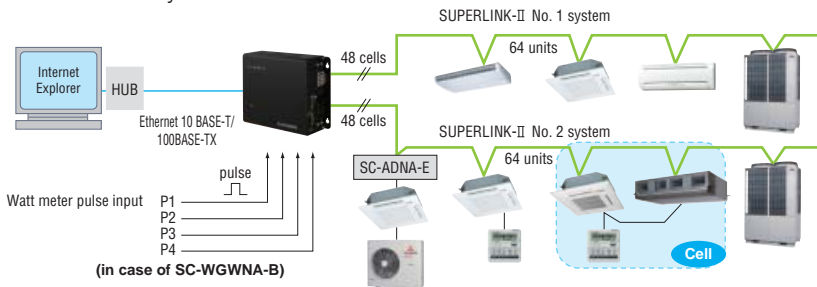
### SC-WGWNA-A/SC-WGWNA-B Production by order

(SC-WGWNA-B is with electric power calculation function)

Control and monitoring of up to 96 cells (some cells can have two or more indoor units and total number of indoor units can be up to 128 units) centralised to a network PC using the Superlink-II web gateway. Simple installation is assured with no special software requirements, operation is via Internet Explorer. A low power embedded CPU and compact flash ROM ensure a large storage capacity with high reliability (no moving parts such as a PC fan, etc). An IP address filter function combined with three-level user authentication check also ensures security.



Additional engineering service cost etc. is required. Please consult your dealer when using this central control.



PC requirements: Windows 2000 or Windows XP.  
Monitor resolution 1024 x 768.  
Web browser requirements: Internet Explorer 6.0 or 7.0.

## <BMS interface unit>

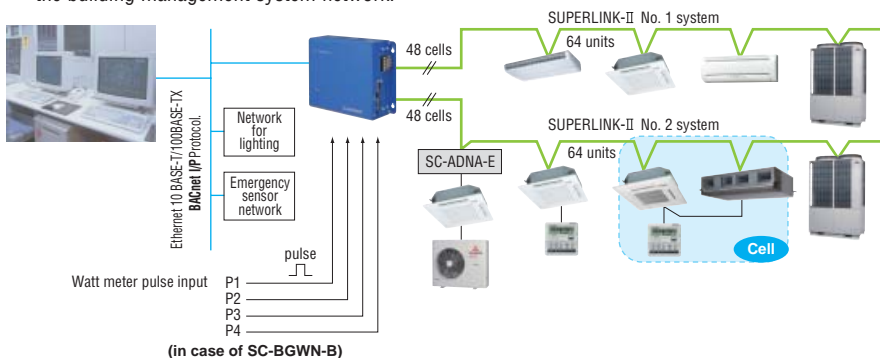
### SC-BGWN-A/SC-BGWN-B (BACnet gateway) Production by order

(SC-BGWN-B is with electric power calculation function)

SC-BGWN-A/B is an interface device that converts MHI's Superlink-II communication data to BACnet code. Control and monitoring functions of the a/c system for up to 96 cells (some cells can have two or more indoor units and total number of indoor units can be up to 128 units) can be integrated to a central control point via the building management system network.



Additional engineering service cost etc. is required. In case of SC-BGWN-B, communication test by qualified person regarding electric cost calculation function is required before commissioning. Please consult your dealer when using this gateway.



### SC-LGWN-A (LonWorks gateway) Production by order

SC-LGWN-A is an interface device that converts MHI's Superlink-II communication data to LonWorks code. Control and monitoring functions of the a/c system for up to 96 indoor units can be integrated to a central control point via the building management system network.



Additional engineering service cost etc. is required. Please consult your dealer when using this gateway.

