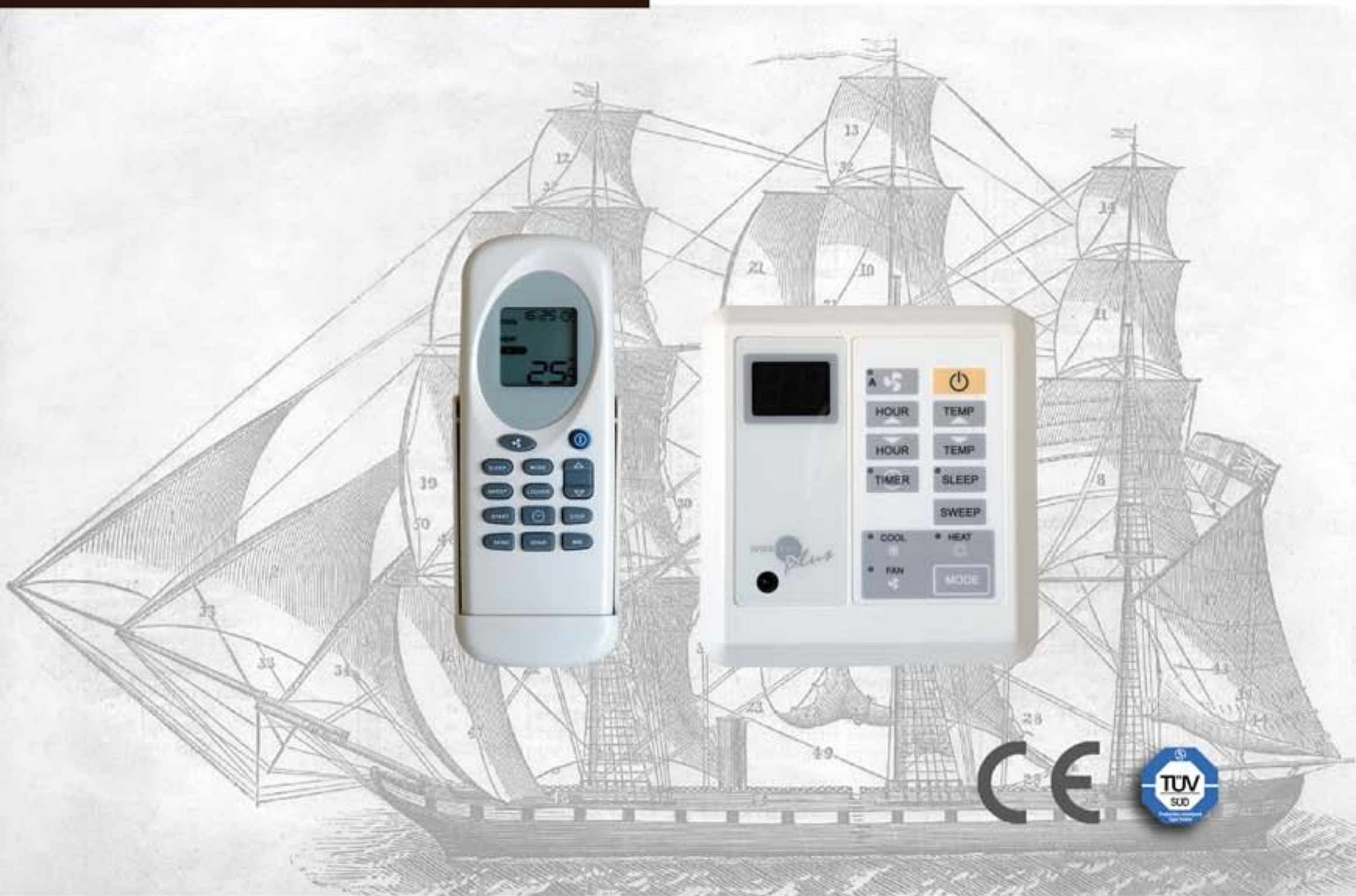


CM-MPC11



**READ AND SAVE
THESE INSTRUCTIONS**

User guide

 **COOLMAR®**

a breath of fresh air, a lifetime journey


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1. USER'S FEATURES

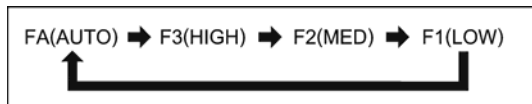
The following features can be operated by the buttons on the Display unit.

1.1 Power on/off

Press  button will turn on the air conditioner or vice versa. When turn on, it will operate according to the last setting.

1.2 Fan

Press  button to select the fan speed (high, medium, low or auto). The 7 segments display show the status in blinking for 5 seconds.



Auto fan speed



When the fan speed is put in auto speed the AUTO LED on the Display unit will be lit. The speed will be adjusted automatically according to the difference between the room temperature and setting temperature.

- If the difference is 3°C or more, the speed is high.
- If the difference is 2°C, the speed is medium.
- If the difference is 1°C or less, the speed is low.

1.3 Operating mode




Press  button to put the system in COOL or FAN only mode. The LED will be lit to show the status.

1.4 Temperature setting

The setting temperature can be set in the range of 18-30°C by pressing  or  button. The 7 segments LED on the Display unit will show the setting temperature in blinking for 5 seconds. After that it will go back to display the room temperature.

1.5 Timer off


The system can be turned off in advance (from 1-15 hours).

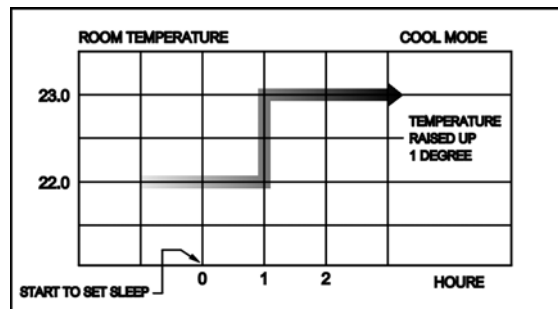
- Press  button during the system is on, the 7-segment display will show No. of hour in blinking and the LED on the button will be lit.
- Press  or  button to change the setting.

1.6 Timer on

Ditto as clause 2.5 but pressing  button during the system is off.

1.7 Sleep

Pressing  button will start the sleep function. The LED on the button will be lit. For cool mode, the setting temperature will be automatically raised up 1°C after one hour.




Note:

- When the system is put in the sleep mode, press SLEEP button again will cancel the sleep function.
- When the system is put in the sleep mode and the TEMP button is pressed, it will changed the setting temperature 1°C from the last setting.

When the system is put in the sleep mode and the air conditioner is stopped by the power failure or by turn off, it will cancel the sleep function.

1.8 Sweep (optional)

Press  button to turn on/off the sweep motor.

2. SYSTEM FEATURES

2.1 Watchdog

There is a watchdog circuit to watch the operation of the microprocessor. If it is malfunctioned, this circuit will reset the microprocessor automatically.

2.2 Compressor delay protection

Each time the compressor is off, there will always be a 3 minute time delay before the compressor can restart. In case of power interruption, the system will delay the operation of the compressor in the range of 3-4 minutes in random order. This is to protect the compressors in the air conditioners of the whole building start at the same time.

2.3 Compressor minimum on time

Once the compress starts, it will operate at least 24 seconds.

2.4 Non-volatile memory

The system keeps the setting parameters such as on/off status, fan speed, etc. in its non-volatile memory. If there is a power interruption and back to normal, the control will automatically resume its operation with the same setting parameters (except the sleep and timer function which will be canceled).

If there is any change in the parameter, it will be saved in the non-volatile memory 5 seconds later.

2.5 Freeze function

In Cool mode, there is a feature to prevent the evaporator from freezing.

Enter into Freeze process	While in Freeze process	Exit from Freeze process
$T_{\text{indoor coil}} \leq 0^{\circ}\text{C}$, and	Comp. stops, and	$T_{\text{indoor coil}} \geq 7^{\circ}\text{C}$, or
Comp. runs continuously more than 10 min.	Indoor fan at low speed, and	System OFF
	Display shows F_r in blinking	

2.6 Cooling Fail

In COOL or DRY mode if the compressor has been operating more than 3 minutes but the indoor coil temperature is still above 25°C, the compressor is supposed to be failed. There will be an alarm at the Display unit.

To exit from this status is by turning off the air conditioner or changing the mode of operation.

2.7 Filter cleaning

When the air conditioner operates more than 500 hours, there will be an alarm as the warning to clean the filter

To reset is by cutting off the power for a while.

2.8 Sensor Error

When the room sensor is failed (open/short circuit), the compressor will be turned on and off in 5 minutes cycle.

When the indoor coil sensor is failed (open/short circuit), the system will operate the same way as no indoor coil sensor model.

There will be an alarm at the Display unit.

2.9 Toggle °C / °F

The temperature can be shown in °F by pressing TEMP Δ and TEMP ∇ buttons at the same time for 5 seconds during the system is turned on. To change to °C is doing it again.

2.10 Self diagnostic

There is a built-in self diagnostic in the system. When there is any error, the alarm will be shown. The 7 segment display will show

rE in blinking if the room sensor is open or short circuit.

FE in blinking if the freeze sensor is open or short circuit.

CF in blinking if the cooling fail function is activated.

Fr in blinking if the freeze fail function is activated.

Ft in blinking if the filter cleaning function is activated.


3.1 LCD type remote

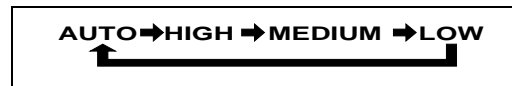
The following features can be done by using the LCD type remote.



3.1.1 Power on/off : ditto clause 2.1

Fan

Press FAN  button to select the fan speed (high, medium, low or auto mode). The display on the Remote unit will show the status.



3.1.2 Operating mode :

By pressing the MODE button on the LCD type remote, the air conditioner can be put in

- 3 operating modes (fan, cool, heat).

3.1.3 Fan

If the system is put in Fan mode, the FAN LED on the Display unit will be lit. The system will operate as the fan only. The TEMP Δ and TEMP ∇ buttons are not used.

3.1.4 Cool

If the system is put in Cool mode, the COOL LED on the Display unit will be lit. The system will operate as the air conditioner. The compressor will

- operate if $T_{\text{room}} \geq T_{\text{set}} + 1$
- stop if $T_{\text{room}} \leq T_{\text{set}}$

However, the compressor is subjected to 3-minute delay protection each time it stops.

3.1.5 Heat

If the system is put in Heat mode, the HEAT LED on the Display unit will be lit. The system will operate as the air conditioner. The compressor will

- operate if $T_{\text{room}} \leq T_{\text{set}} + 1$
- stop if $T_{\text{room}} \geq T_{\text{set}}$

However, the compressor is subjected to 3-minute delay protection each time it stops.

3.1.6 Temperature setting

The setting temperature can be set in the range of 18-30°C by pressing TEMPΔ or TEMP∇ button. The LCD on the Remote unit will show the setting temperature.

3.1.7 Sweep (optional)

Press SWEEP button will turn on/off the sweep motor

3.1.8 Sleep :

Ditto as clause 3.1.5

3.1.9 Clock :

To set the clock on the Remote unit is by

- Press ⊕ button, the time display will blink.
- Press HOUR button, to set the hour,
- Press MIN button, to set the minute,
- Press ⊕ again, the time display will stop blinking.

3.1.10 Auto start :

The air conditioner can be programmed to turn on in advance.

- Press START button, the start-time display will blink,
- Press HOUR button to set the hour,
- Press MIN button to set the minute,
- Press START button again, the start-time display will stop blinking.

To cancel this function, press START button again.

3.1.11 Auto stop :

The air conditioner can be programmed to turn off in advance.

- Press STOP button, the stop-time display will blink,
- Press HOUR button to set the hour,
- Press MIN button to set the minute,
- Press STOP button again, the stop-time display will stop blinking.

To cancel this function, press STOP button again.

5. DRAWING



Display unit



Intro 1 Remote



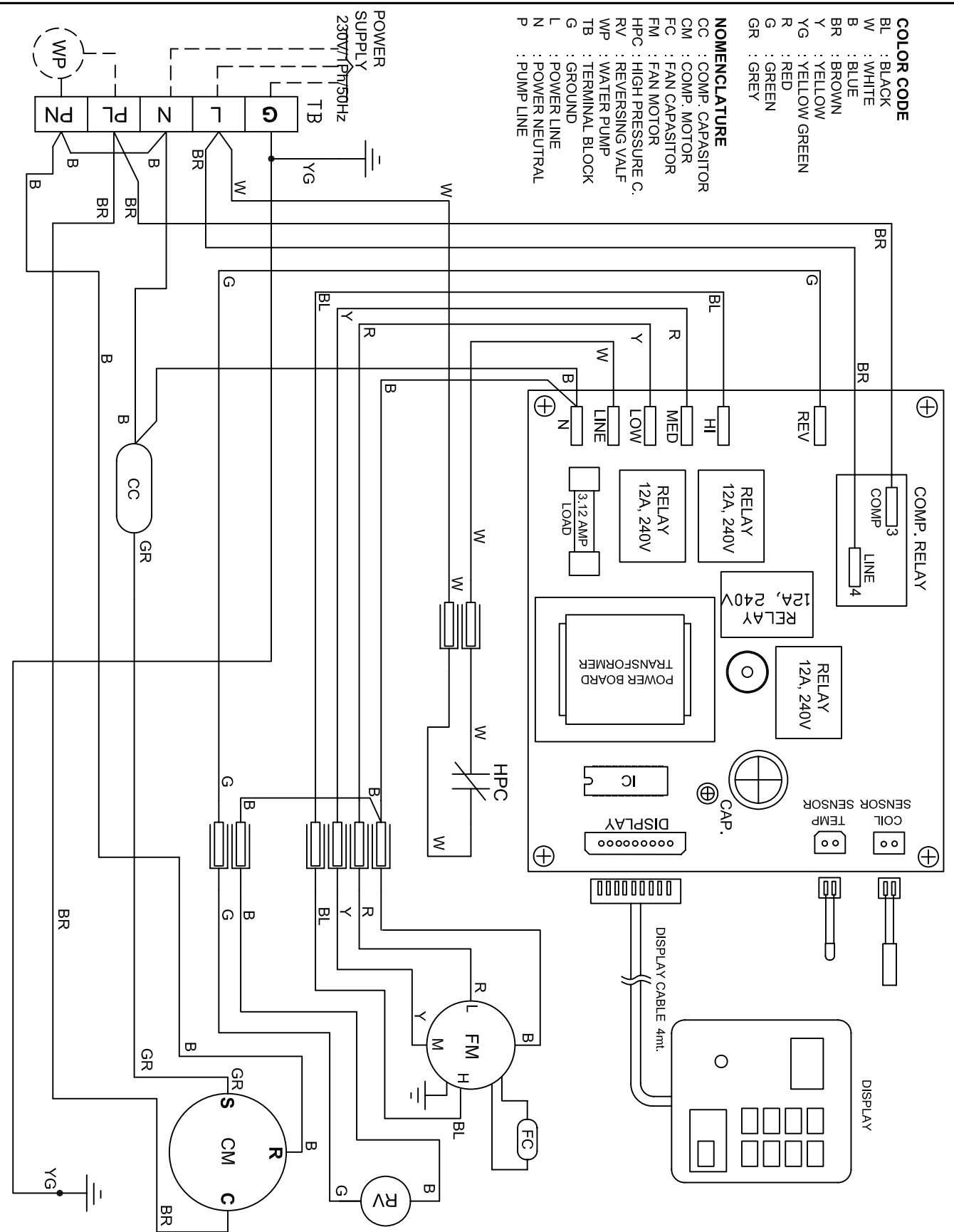
Intro 2 Remote



LCD 4 Remote

DIAGRAM CM-MPC11

MAIN PC BOARD



- NOTES:
 1- UNIT MUST BE PROPERLY GROUNDED.
 2- INSURE THE POWER SUPPLY IS SAME AS SHOWN ON THE UNITS NAME PLATE.
 3- DISCONNECT SWITCH AND ALL WIRING MUST COMPLY WITH LOCAL ELECTRICAL CODES.
 4- FOR HPC & LPC ACCESSORIES PROVISION IS MADE TO INSTALL THE FIELD.

PROJ. : DRW001	DATE:	MODEL NUMBER	REV 3
DR. BY.- M.U.	18-08-04	MAP 015024	
CK. BY.- MH.	18-08-04		