1.9 Central Controller ICR01 0010451974A

1.9.1 Appearance

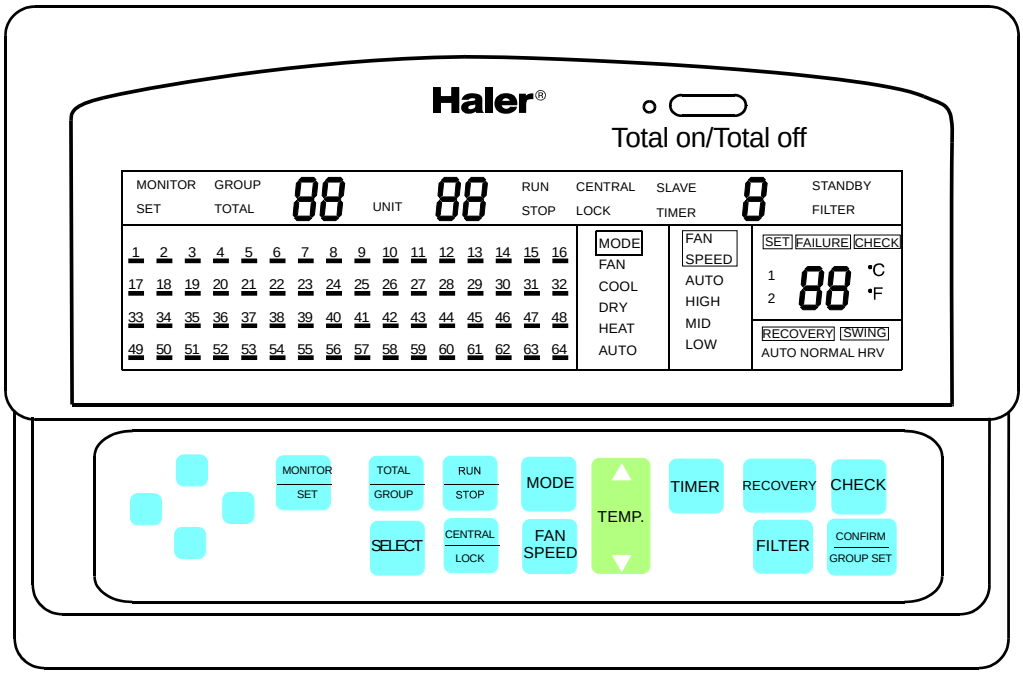


Figure 1

Function description:

ICR01 central controller is developed from YCZ-A001, the operation and dimension is same with YCZ-A001, please refer YCZ-A001 part, ICR01 is used for X Multi, MRVII(R22, R410A) series, YCZ-A001 is used for Unitary Free, Unitary smart and Free Multi seires. But the wiring installation is completely different.

Important! Timer and Recovery buttons are not in use.

1.9.2 LCD icons introduction

LCD of central controller displays indoor state and setting mode of different units.

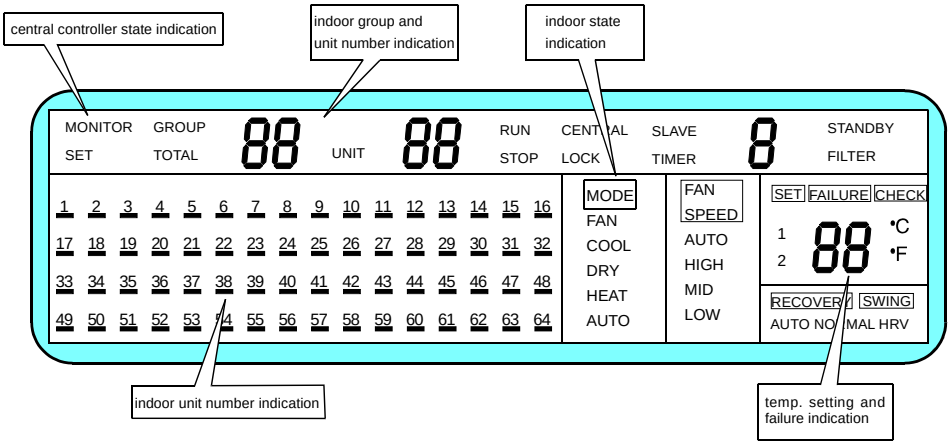


Figure 2: LCD diagram of central controller

1.9.3. Installation drawing

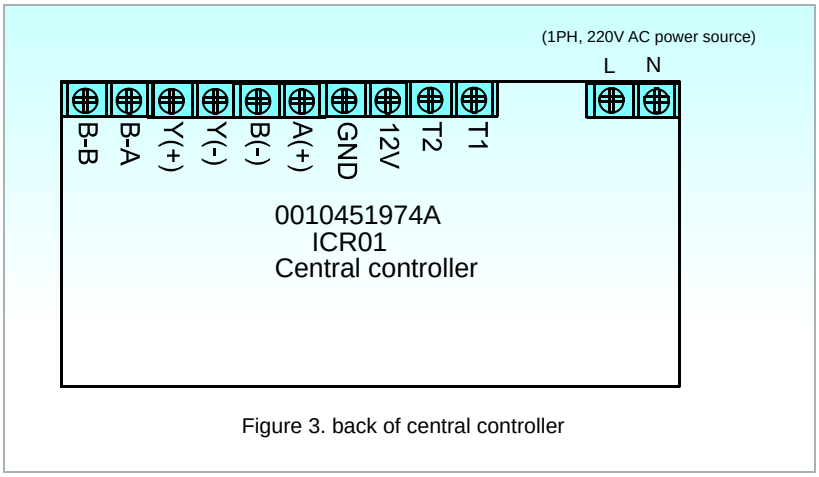


Figure 3. back of central controller

1.9.4. Exterior dimensions for central controller

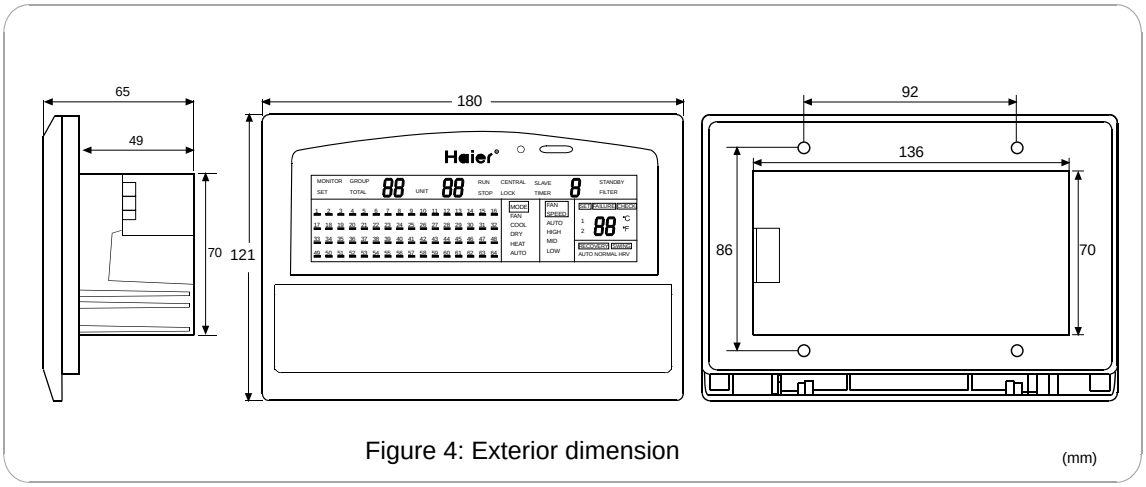


Figure 4: Exterior dimension (mm)

1.9.5. Communication wire specs

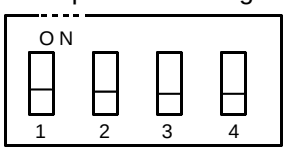
The wire between connecting board to the central controller is the dual-core STP (shielded twisted pair).

The detailed specs are as below:

wire length(m)	Specs
<100	0.3mm^2 * 2-core STP
≥100 and <200	0.5mm^2 * 2-core STP
≥200 and <300	0.75mm^2 * 2-core STP
≥300 and <400	1.25mm^2 * 2-core STP
≥400 and <600	2mm^2 * 2-core STP

※ Shielded layer of communication wire must be earthed on one end.

1.9.6. Dip switch setting of central controller: shown in the below figure (ON:0, OFF: 1)



Dip switch setting meaning:

The first bit: central bux line selection, 0: indoor bus line(Install without IGU04); 1: central bus line

The second bit: master/slave central controller selection, 0: master central controller; 1: slave central controller

The third, fourth bit: control range, 00: 1~64, 01: 65~128, 10: 129~192, 11: 193~256. Every central controller only can control 64 units, and every unit can include max. 16 indoors, but the central controller only displays the master indoor state.

position	1	2	3	4
0: ON	indoor bus line	master controller	00: 1~64 01: 65~128	
1: OFF	central bus line	slave controller	10: 129~192 11: 193~256	

For example:

Select central bus line, master central controller, control range is 00, so the dip switch is 1 0 0 0 (default)

Select indoor bus line, master central controller, control range is 00, so the dip switch is 0 0 0 0.

1.9.7. Can set the central control unit as a group, and the max. 64 units of indoor can be set a group. After setting unit, the indoor in one group can be controlled the same operation (when out of factory, one unit is regarded as one group).

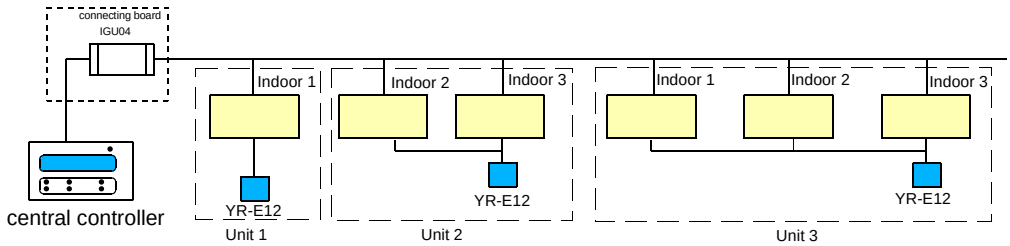


Figure 5 Central unit and group diagram

1.9.8. Control function

1. Features and functions of central controller

Central controller control(ICR01) diagram is as below:

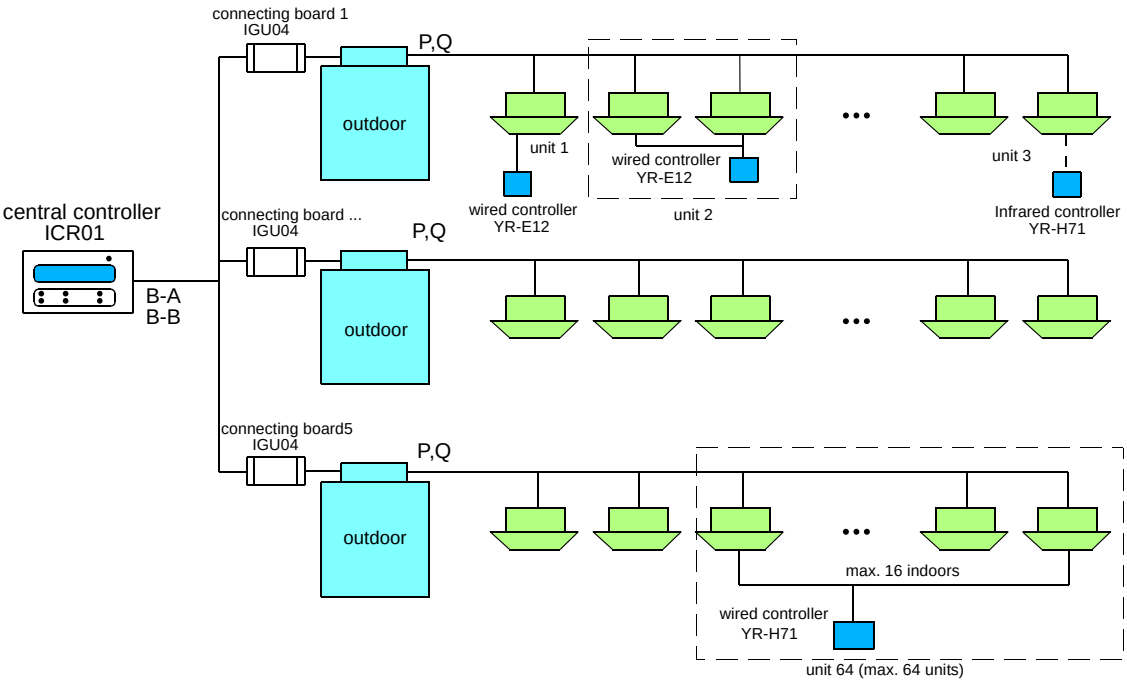


Figure 6 MRV II central control system diagram

1.9.9.Summarization

For installation, connect communication wires from central controller ICR01 port B-A,B-A, to connecting board IGU04. and then connect communication wires from IGU04 P,Q to outdoor or indoor unit communication port P,Q. Notice, the default position of ICR01 dip switch is 1 0 0 0, the address of IGU04 and the indoor address must be set in different number.

When one central controller control one air condition system, also can directly connect wires from ICR01 B-A,B-B port to P, Q port of outdoor or indoor communication port.

Press [check] button, ICR01 will show the diagnostic code, when unit * is in error, and choose the number in ICR01, you will see the diagnostic code, and if not select the error units, the error units' number will be flashing.

Diagnostic code for outdoor master unit

20	Outdoor defrost temp. sensor TE error	The temp. tested from sensor is keeping lower than -60.87℃ or higher than 135.4℃ for 60 seconds, and system will automatically change to backup running mode.
21	Outdoor ambient temp. Sensor TA error	
22	Outdoor suction temp. sensor TS error	
24	Outdoor oil temp. sensor Toil error	
23	Outdoor discharge temp. Sensor TD error	The temp. tested from sensor is keeping lower than -4.45℃ or higher than 337.14℃ for 60 seconds, and system will automatically change to backup running mode.
25	Master compressor current is over high	Signal comes from MCU 840
26	Communication error between indoor and outdoor unit	Outdoor didn't find anyi ndoor unit
27	Compressor oil temp. is over-high	Oil temp. is keep higher than 90℃ for 5 minutes, when the temp. is lower than 75℃, the alarm will be disappeared automatically.
28	Master unit high pressure sensor error	The signal voltage is higher than 4.9V, or lower than 0.1V for 30 seconds
29	Master unit low pressure sensor error	
30	High pressure switch alarms for over-high pressure	The switch keep open for 1 minute, alarm, if switch keep short-connecting for over 1 minute, the alarm will be gone automatically
31	Low pressure switch alarms for over-high pressure or over-low pressure	
32	Inverter IPM problem	Signal comes from MCU 840
33	Master unit PCB MB89F538 EEPROM error	EEPROM data is lost or is installed in wrong way.
34	Outdoor compressor discharge temp. sensor alarms	Discharge temp. sensor TD1 temperature is higher than 125℃ for 10 seconds，when lower than 100℃, resume
35	The protection part in inverter compressor is acted	Check the part in compressor.
37	Master unit high/low pressure sensor is installed in wrong turn	In the first 3 minutes of compressor running, Pd/Ps<1 for over 60 seconds
39	Master unit low pressure sensor alarms	Cooling: Ps< 0.2kgG/cm^2 for 30 seconds, alarm Heating: Ps <-0.2kgG/cm^2 for over 10 minutes, alarm.
40	High pressure sensor alarms	Pd>28.5kgG/cm^2 for over 30 seconds
41	Suction temp. sensor TS alarm	TS>40℃ for over 10 minutes
42	Current over-high	Signal is higher than setting Max. current for 5 seconds

43	Master discharge temp. sensor alarm in low frequence	When inverter compressor frequence is lower than 30Hz, TD1 is higher than 110℃
44	Communication error between master unit MB89F538 and MCU 807(indoor)	No signal for over 4 minutes
45	Communication error between master unit MB89F538 and MCU 807 (indoor) MB89F538 and 807（central controller）	No signal from indoor unit or central controller for over 4 seconds
46	Communication error between master unit connecting board and inverter PCB	No signal for over 2 minutes
49	Master inverter drive PCB EEPROM error	EEPROM data is lost or installed in wrong way.
50	The total capacity of indoor units is too high	Total capacity of indoor units>outdoor capacity x 135%
51	Outdoor communication signal is lost	
52	Indoor units is over than 64 sets	
53	Central control address repeat	Check the address of all indoor units
54	Master unit oil temp. is over-low	In running, the temp. of compressor oil is lower than (ps+10）℃ for 5 minutes
69	Slave unit is lost	Communication of slave unit error or switched off
70	Shortage of refrigeration	Only show diagnostic code, doesn’t stop units