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I Remote Tools
For Inverter Units

Technical Support Department

May 19

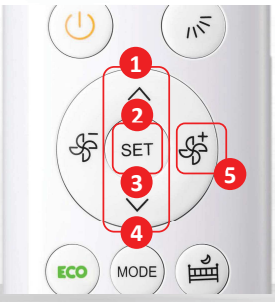
Engineering Mode of Normal RG58

Normal RG58 remote controller can also be set into **Engineering Mode** to be an engineering remote controller.

To set RG58 into Engineering Mode, Press and hold **POWER** and **SWING** buttons at the same time until **F1** shows on display (about 5 seconds) during the first 30 seconds when the controller is electrified (batteries installed).

Take out the batteries and re-install them again to quit **Engineering Mode**.

How to change the pre-setting



1. Press ▲ or ▼ of "TEMP" to find the item you want to change;
2. Press "SET" to start edit mode;
3. Press SET to select A, or B parameter;
4. Press ▲ or ▼ of "TEMP" to find the optional value you want;
5. Press "FAN+" to store the setting and send it to the indoor unit.

Engineering Mode of Normal RG70

Normal RG70 remote controller can also be set into **Engineering Mode** to be an engineering remote controller.

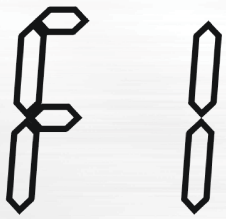
To set RG70 into Engineering Mode, Press and hold **Mode** and **Fan** buttons at the same time until **F1** shows on display (about 5 seconds) during the first 30 seconds when the controller is electrified (batteries installed).

Take out the batteries and re-install them again to quit **Engineering Mode**.

How to change the pre-setting

1. Press ▲ or ▼ of "TEMP" to find the item you want to change;
2. Press "Mode" to start edit mode;
3. Press "Mode" to select A or B parameter;
4. Press ▲ or ▼ of "TEMP" to find the optional value you want;
5. Press "FAN" to store the setting and send it to the indoor unit.

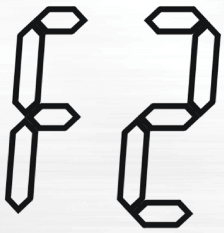
Settable Items



Auto-restart

Optional Parameters:
On
Off

Settable Items

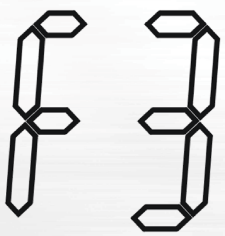


Heating temperature Compensation

Optional Parameters:

-6	6
-5	5
-4	4
-3	3
-2	2
-1	1
0	

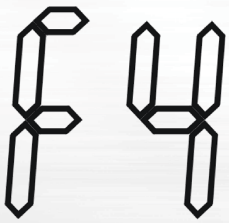
Settable Items



Anti-Cold Air

Optional Parameters:
1(intelligent): 17-21
2(normal): 18-24-28

Settable Items



Speed control after T_s reached

Optional Parameters:
1: Fan stop
2: Lowest RPM
3: Setting RPM
4: Termal function

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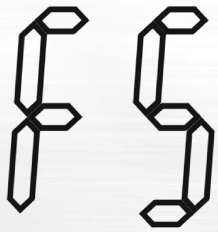
Settable Items



Louver position Memory

Optional Parameters:
1: No memory
2: Switch off √; Power failure √
3: Switch off √; Power failure ×

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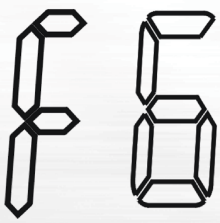
Settable Items



Heating only or Cooling & heating

Optional Parameters:
HH
CH

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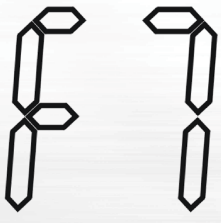
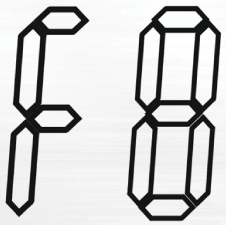
Settable Items



Cooling temperature Compensation

Optional Parameters:
-2 2
-1 1
0

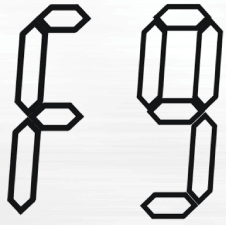
Settable Items



EC protection

Optional Parameters:
On
Off

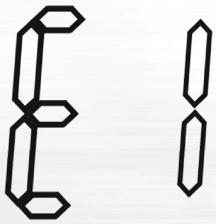
Settable Items



Filter cleaning reminding

Optional Parameters:
On
Off

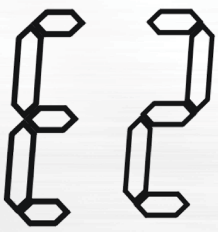
Settable Items



Filter change reminding

Optional Parameters:
On
Off

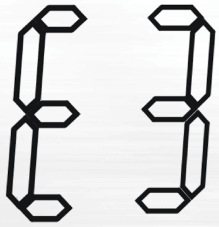
Settable Items



Lowest Setting temperature in Cooling

Optional Parameters:
17-24

Settable Items



Highest Setting temperature in Heating

Optional Parameters:
25-30

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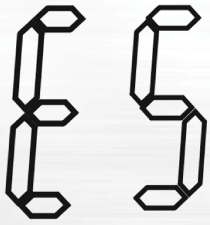
Settable Items



Priority mode setting of multi units

Optional Parameters:
H
C

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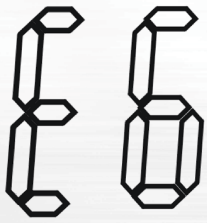
Settable Items



Network address setting

Optional Parameters:
0-63
--: determined by dial switch

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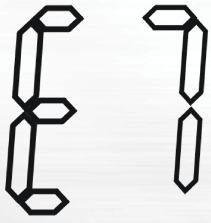
Settable Items

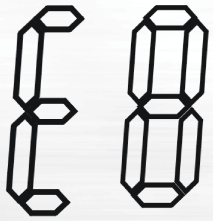


Capacity code Setting

Optional Parameters:
0~3 (reserved)

4: 18K	8: 48K
5: 24K	9: 54K
6: 30K	10: 60K
7: 35K	

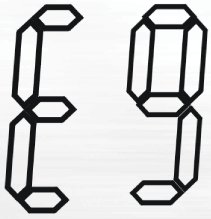
Settable Items



Twins setting

Optional Parameters:
0: No twins
1: Master unit
2: Slave unit

Settable Items



Static pressure setting

Optional Parameters:
0 (determined by dial switch)
1
2
3
4

Error code and explanation

Error Code	Explanation
E0	Indoor EEPROM error
E1	Communication error of indoor and outdoor unit
E2	Error of zero cross detection of indoor unit
E3	Indoor fan out of control
E5	EERROM or temperature sensor error of outdoor unit
E50	Temperature sensor error of outdoor unit
E51	Outdoor EEPROM error
E6	Temperature sensor error of indoor unit
E60	Error of room temperature sensor of indoor unit
E61	Error of evaporator temperature sensor of indoor unit
E7	DC fan of outdoor unit out of control
Eb	Error of communication between indoor PCB and display PCB
P0	IPM Module protection of outdoor unit
P1	Voltage protection
P10	Low voltage low protection
P11	Over voltage protection
P12	Error of 341MCE
P2	Top temperature protection of compressor
P4	Feedback protection of compressor in outdoor unit
P40	Communication error between main control trip and drive chip
P41	Error of current sampling circuit of compressor
P42	Error of compressor start up

Error code and explanation

Continue

Error Code	Explanation
P43	Phase lose protection
P44	Zero speed protection
P45	Synchronization error between 341 chip and PWM
P46	Compressor speed out of control
P49	Error of over current of compressor
P6	High discharge temperature protection of compressor
P8	Current protection
P80	Current protection of indoor unit
P81	Current protection of outdoor unit
P82	Error of sampling of input AC
P9	High and low temperature protection of evaporator
P90	High temperature protection of evaporator
P91	Low temperature protection of evaporator
PA	High temperature protection of condenser
L0	Frequency limit caused by High or low evaporator temperature
L1	Frequency limit caused by high condenser temperature
L2	Frequency limit caused by high discharge temperature of compressor
L3	Frequency limit caused by current
L5	Frequency limit caused by voltage

Information code and explanation

Query code	Query Info.	Way of display	Range of display
Fr.	Running frequency	decimal	0~~999Hz
FT.	Target frequency	decimal	0~~999Hz
T1. or T.1.	Room temperature value or AD value	decimal Or hex	-99~~99℃or 0000~~00FFH
T2. or T.2.	Indoor evaporator temperature value or AD value	decimal Or hex	-99~~99℃or 0000~~00FFH
T3. or T.3.	Outdoor Capillary temperature value or AD value	decimal Or hex	-99~~99℃or 0000~~00FFH
T4. or T.4.	Room ambient temperature value or AD value	decimal Or hex	-99~~99℃or 0000~~00FFH
TP. or T.P.	Discharge temperature value or AD value	decimal Or hex	-99~~99℃or 0000~~00FFH
TH. or T.H.	Suction temperature value or AD value	decimal Or hex	-99~~99℃or 0000~~00FFH
dL. or d.L.	Current value or AD value	decimal Or hex	0~~99.99 or 0000~~00FFH
Uo. or U.o.	Voltage value or AD value	decimal Or hex	0~~9999 or 0000~~00FFH
TT.	Setting temperature of indoor unit	decimal	0~~99℃
dT. nF. oF. Pr. Lr. od. Sn. SF. CF. FL. oT.	Reserved		

Tips for fast identify the problem

P0 IPM over current protection

Running State	Causes	Solution
Occurs when connect to the power.	IPM board failure	Replace IPM board.
Occurs when compressor operates	1) Compressor cable connection problem. 2) Refrigerant system overload. 3) Power failure. 4) IPM board failure. 5) Compressor failure.	1) Check compressor cable connection. 2) Check the refrigerant system and indoor/outdoor heat exchanger. 3) Check power supply and the power of each point on IPM board. 4) Replace IPM board. 5) Replace compressor.

Tips for fast identify the problem

P1 DC voltage is too high or too low

P10	DC voltage too low
P11	DC voltage too high
P12	341 (Driver MCU) MCE (Motion Control Engine) malfunction

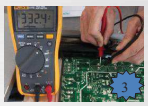
The relation of the input voltage and DC bus voltage when standby (DC bus voltage means the high voltage electrolytic capacitor voltage between two pins):

$$V_{DC}=V_{ACin}*1.414$$

Because of the load and power input, VDC=200 ~ 380 V.

Test as shown in Figure 2 and figure 3, you can get 2 possibilities:

Figure 2 and 3 should be consistent.	Check power,connector and Bridge rectifier
Figure 2 and 3 don't be consistent.	PCB board malfunction.



Tips for fast identify the problem

P4 Compressor drive error

P42	Compressor startup failure
P43	Compress phase loss failure
P44	Compress zero speed failure
P46	Compressor speed out of control
P49	Compressor over current

P40	Communication malfunction between control MCU and compressor driver MCU
P41	Compressor current sampling circuit fault
P45	341 PWM synchronous error

The above faults need to be solved by replacing the outdoor PCB board.

Causes	Solution
1) Compressor cable connection problem. 2) Control board error 3) Heat exchange of refrigerant system poor. 4) Compressor failure	1) Check compressor cable connection including both ends. 2) Replace control board. 3) Check refrigerant system pressure. 4) Replace compressor

Tips for fast identify the problem

F0 Cover-current protection

P80	Indoor unit over current (Indoor detect)
P81	Outdoor unit over current (outdoor detect)
P82	Input AC current sampling circuit fault

Outdoor unit AC current detected from compressor controller and send the data to indoor.

Figure 1 show how to measure AC current with ammeter,
Figure 2 show query sampling current.

P82 code or another code when standy.		PCB board malfunction, Replace compressor control board.
P80 and P81 code when running	Figure 1 and 2 Basically consistent.	1Too much system load, check the system pressure. 2PFC malfunction, Replace the main PCB
	Figure 1 and 2 don't consistent.	Faulty PCB, Replace it.

Tips for fast identify the problem

E1 Communication error between indoor and outdoor unit

This error code means that the communication between the indoor unit and the outdoor unit was interrupted or not exist at all.

Running state	Causes	Solution
Compressor can run	Interference	1) Adjust the indoor and outdoor Connecting wire, for example: close, far from noise, use a single cable for S wire. 2) Replace indoor or outdoor PCB board.
Compress can't run	1) the wire sequence on L, N & S mistake. 2) Communication circuit of outdoor and indoor malfunction. 3) Outdoor board power supply problem.	1) Check the wire sequence of L, N and S. 2) The detector can detect T1 and T2 values means indoor sending and outdoor receiving are normal. Disconnect T3 or T4, it means outdoor sending and indoor receiving are normal if the indoor unit shows the error code. You will find out where the problem comes from by above tests. 3) LEDs on outdoor PCB are all off, which means there is power supply problem of outdoor PCB. Check the wiring or replace outdoor PCB.

Under the usual conditions, the failure rate of indoor PCB is low, so replace outdoor PCB first, and then the indoor PCB.

THANKS

FOR YOUR ATTENTION

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