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You can read the recommendations in the user guide, the technical guide or the installation guide for TOSHIBA MMY-MAP1202FT8. You'll find the answers to all your questions on the TOSHIBA MMY-MAP1202FT8 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

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TOSHIBA

FILE NO : A06-009

Quick reference

SUPER HEAT RECOVERY MULTI (2 Series)



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Manual abstract:

@@@Therefore, set the T-shape joint so that oil does not enter directly. @equivalent length of main piping Equivalent length of farthest piping from 1 st branching Li (1) Pipe Max. real length of indoor unit connecting piping length Max. real length between FS unit and indoor unit (2) Max. equivalent length of outdoor unit connecting pipe LO (1) Max. real length of outdoor unit connecting pipe Max. equivalent length between FS unit and indoor unit Lj Max. real length between FS unit and indoor unit which FS unit control wiring is connected Lh (2) Upper outdoor unit Height between indoor unit and outdoor unit H1

Lower outdoor unit Upper outdoor unit Height between Height indoor unit H2 Lower outdoor unit difference Height between outdoor units H3 Height difference between indoor units in group control by one FS unit H4 Farthest piping length L (1) 300 m 125 m 150 m 85 m 50 m 30 m 15 m 25 m 10 m 30 m 15 m 50 m 30 m 35 m 15 m 5m 0.5 m Pipe section LA + La + Lb + Lc + L1 + L2 + L3 + L4 + L5 + L6 + L7 + L8 + L9 + a + b + c + d + e + f + g + h + i + j + k + l + m + n + o + p + q LA + Lc + L1 + L3 + L4 + L5 + L6 + L7 + L8 + q L1 L3 + L4 + L5 + L6 + L7 + L8 + q a + g, b + h, c + i, d + l, e + m, f + m, f + n, j, k g, h, i, l, m, n, L7 + o LA + Lc (LA + Lb) La, Lb, Lc L7 + L8 + p, L7 + L8 + q L7 + o ----- * * * * *1 : The farthest indoor unit from 1st branch to be named C, and farthest indoor unit from 1st branch to be named (q). *2 : Attached connection cable can be used up to 5 m in pipe length between indoor unit and FS unit.

When the pipe length between indoor and FS unit exceeds 5 m, be sure to use the connection cable kit (RBC-CBK15FE). · Restriction to the system Max. No. of combined outdoor units Max. capacity of combined outdoor units Max.

No. of connected indoor units Max. capacity of connected indoor units Min. @@Header unit is outdoor unit nearest to the connected indoor units. Note 2) Install the outdoor units in order of capacity.

@@@>1>. @@>2>. 02 Addition of refrigerant After vacuuming work, exchange the vacuum pump with the refrigerant bomb and then start the additional charging work of refrigerant. Calculation of additional refrigerant charge amount Refrigerant charge amount at shipment from the factory does not include the refrigerant for pipe at the local site. For refrigerant to be charged in pipe at the local site, calculate the amount and charge it additionally. Note) If the additional refrigerant amount indicates minus as the result of calculation, use the air conditioner without addition of refrigerant. Outdoor unit Model Charging amount (kg) Additional refrigerant charge amount at local site MMY-MAP0802FT8 MMY-MAP1002FT8 11.5 MMY-MAP1202FT8 = (Real length × of liquid pipe Additional refrigerant charge amount per 1m liquid pipe (Table 1)) × 1.3 Compensation by 2) system HP (Table Example : Additional charge amount R (kg) = {(L1 × 0.025kg/m) + (L2 × 0.

055kg/m) + (L3 × 0.105kg/m)} × 1.3 L1 : Real total length of liquid pipe Ø6.4 (m) L2 : Real total length of liquid pipe Ø9.5 (m) L3 : Real total length of liquid pipe Ø12.7 (m) System : 10HP Table-1 Liquid pipe dia. (mm) 6.4 9.5 12.7 15. 9 19.1 22.2 Additional refrigerant amount/1m liquid pipe (kg/m) 0.025 0.055 0. 105 0.160 0.250 0.350 Table-2 Combined (HP) 8 10 12 16 18 20 24 26 28 30 Combined outdoor unit (HP) 8 10 12 8 10 10 8 10 8 8 10 8 8 10 10 8 8 8 10 C (Corrected refrigerant amount) (kg) 2.0 2.

5 3.0 1.5 0.0 2.0 4.5 3.0 1.5 0.0 Charging of refrigerant · Keeping valve of the outdoor unit closed, be sure to charge the liquid refrigerant into service port at liquid side. · If the specified amount of refrigerant cannot be charged, open fully valves of outdoor unit at liquid and discharge/ suction gas sides, balance side operate the air conditioner in COOL mode under condition that valve at suction gas side is a little returned to close side, and then charge refrigerant into service port at suction gas side.

In this time, choke the refrigerant slightly by operating valve of the bomb to charge liquid refrigerant. The liquid refrigerant may be charged suddenly, therefore be sure to charge refrigerant gradually. · When refrigerant leaks and refrigerant shortage occurs in the system, recover the refrigerant in the system and recharge refrigerant newly up to the correct level. REQUIREMENT <Entry of refrigerant charge amount> · Fill the additional refrigerant record column of the wiring diagram indication plate with the additional refrigerant amount at installation work, total refrigerant amount and the name of the service man who charged refrigerant at installation time. · The total refrigerant amount means the total value of the refrigerant amount at shipment and the additional refrigerant amount at installation time. The refrigerant amount at the shipment is one described on the "Unit nameplate". 03 Refrigerant Piping Diagram (Outdoor) Inverter unit (8, 10, 12HP) Model: MMY-MAP0802FT8, MAP1002FT8, MAP1202FT8 Propeller fan FM Sensor (TE1) Strainer Pulse motor valve Solenoid valve (SV12) (PMV1) (PMV2) Strainer Fan motor (Right side) Main heat exchanger (Left side) Main heat exchanger Sub heat exchanger (Right side) Sub heat exchanger (Left side) Solenoid valve (SV11) 4-Way valve Capillary tube Sensor (TS1) Sensor (TS2) Solenoid valve (SV2) Capillary tube Sensor (TO) Check valve (PMV3) Check valve Strainer Solenoid valve (SV5) Capillary tube Low-pressure sensor High-pressure sensor Check valve Sensor (TL) Solenoid valve Check joint (SV6) Capillary tube Strainer Solenoid valve (SV3D) Capillary tube Solenoid valve (SV41) Check joint Oil separator Strainer Check valve Solenoid valve (SV42) Check valve Strainer Liquid tank High-pressure switch Sensor (TD1) Capillary tube Sensor (TK3) Strainer Check valve Solenoid valve (SV3C) High-pressure switch Sensor (TD2) Accumulator Check joint Compressor 1 (Inverter) Strainer Check valve Compressor 2 (Inverter) Capillary tube Sensor (TK1) Solenoid valve (SV3E) Capillary tube Sensor (TK4) Capillary tube Sensor (TK2) Oil tank Capillary tube Strainer Strainer Strainer Solenoid valve (SV3A) Check valve Solenoid valve (SV3B) Check valve Service valve of balance pipe Service valve at discharge gas side Service valve at suction gas side Service valve at liquid side 04 Explanation of functional parts Functional part name SV3A SV3B SV3C SV3D SV3E Functional outline (Connector CN324: Red) Closed : Allows oil to collect/remain in the oil tank. Open : Allows oil to exit the oil tank. (Connector CN313: Blue) Open : Allows oil to return to the outdoor unit via the balance pipe. (Connector CN314: Black) Open : Pressurizes the oil tank. (Connector CN323: White) Open : Supplies oil to the compressor from the oil separator.



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(Connector CN323: White) Open : Turns on during operation and balances oil between compressors. (Hot gas bypass) (Connector CN312: White) 1) Low pressure release function 2) High pressure release function 3) Gas balance function during stop time (Gas balance control for compressor start-up) (Connector CN311: Blue) 1) For gas balance start 2) High pressure release function 3) Low pressure release function (Connector CN310: White) 1) Increase of No. of heating indoor units, Gas balance function in defrost time 2) Low-pressure balance function of discharge gas pipe during all cooling operation (Connector CN309: White) 1) Liquid bypass function for discharge temp. release (Cooling bypass circuit) (Connector CN322: White) 1) For shutdown discharge gas (During all cooling operation and defrost operation) (Connector CN319: White) 1) Flow-rate control function of refrigerant to sub heat exchanger during simultaneous operation 2) Flow-rate control function of refrigerant to sub heat exchanger during defrost operation (Connector CN317: Blue) 1) Cooling/Heating selection 2) Reverse defrost 3) Main-/Sub-heat exchanger selection PMV1, 2 Pulse motor valve PMV3 (Connector CN300, 301: White) 1) Super heat control function during all heating operation and mainly heating, partly cooling operation 2) Under-cool adjustment function during all cooling operation 3) Divided flow control function during mainly cooling, partly heating operation (Connector CN302: Red) 1) For flow-rate control of sub heat exchanger during simultaneous operation (Control function of heating divided flow) 2) A function preventive high pressure up during all cooling or all heating operation 1) Prevention for early drop of oil level (Decrease of flow-out of discharge oil to cycle) 2) Reserve function of surplus oil TD1, TD2 TS1 TS2 Temp.

sensor (TD1: Connector CN502: White, TD2: Connector CN503: Pink) 1) Protection of compressor discharge temp. 2) Releasing of discharge temp. (Connector CN504: White) 1) Controls super heat of PMV1 and 2 during all heating operation and simultaneous operation (Connector CN522: Black) 1) Controls indoor oil recovery during all cooling operation and mainly cooling, partly heating operation 2) Detects overheat of cycle. (Connector CN505: Green) 1) Controls defrost during all heating operation and simultaneous operation. 2) Controls outdoor fan during all heating operation and simultaneous operation.

a TK1: Connector CN514: Black, è TK3: Connector CN516: Red, ASV2 Solenoid valve SV41 SV42 SV5 SV6 SV11 SV12 4-way valve Oil separator TE TK1, TK2, TK3, TK4 TL TO TK2: Connector CN515: Green, ö TK4: Connector CN523: Yellow ø 1) Judges oil level of compressor. (Connector CN521: White) 1) Detects under-cool during all cooling operation and simultaneous operation. (Connector CN507: Yellow) 1) Detects external ambient temperature. 05 Continued Functional part name Functional outline (Connector CN501: Red) 1) Detects high pressure and uses it to control capacity of compressor. 2) Detects high pressure during all cooling operation and uses it to control fan when cooling with low outside air. 3) Detects under-cool of the indoor unit of which heating thermo.-ON during all heating operation and simultaneous operation. 4) Controls outdoor fan rpm during mainlinues (OFF ® ON) Operation continues (As ON) Stop once (OFF ® ON) Operation continues (As ON) Operation continues (As ON) Before update Note) Phrases in parentheses in the table indicate status of 4-way valve. <ON-OFF list of Flow Selector Unit (FS Unit) valve> Outline of control valve output of FS unit (Basic operation) Indoor operation mode SVD (High pressure circuit valve) OFF <OFF> OFF OFF SVDD (Pressure valve <For delay>) OFF <OFF> OFF OFF SVS (Low pressure circuit valve) OFF <OFF> OFF ON SVSS (Reducing valve <For delay>) ON <OFF> ON ON 1. Stop (Remote controller OFF) <All system stop> 2.

Cooling thermo-OFF 3. Cooling thermo-ON 4. Heating thermo-OFF ON 5. Heating thermo-ON 6. "E04" error is being detected OFF OFF OFF OFF ON OFF OFF Check Code List Main remote controller display E01 E02 E03 E04 E06 E07 E08 E09 E10 E12 E15 E16 E18 E19 E20 E23 E25 E26 E28 E31 F01 F02 F03 F04 F05 F06 F07 F08 F10 F12 F13 F15 F16 F23 F24 F29 F31 H01 H02 H03 Check code name Main remote controller display H04 H06 H07 H08 H14 H16 L03 L04 L05 L06 L07 L08 L09 L10 L17 L18 L20 L28 L29 L30 L31 P01 P03 P04 P05 P07 P10 P12 P13 P15 P17 P19 P20 P22 P26 P29 P31 - - - -

Check code name 08 Communication error between indoor and remote controller (Detected at remote controller side) Sending error of remote controller Communication error between indoor and remote controller (Detected at indoor side) Communication circuit error between indoor and outdoor (Detected at indoor side) Decrease of No. of indoor units Communication circuit error of indoor and outdoor (Detected at outdoor side) Duplicated indoor addresses Duplicated master remote controllers Communication error in indoor P B ass'y .C. Automatic address start error No indoor automatic address No. of connected indoor units / Capacity over Communication error between indoor header and follower uness setup procedure 2 (However, go to the procedure 1 when the central control is performed in a single refrigerant line.) (Example) Address setup procedure Cable systematic diagram Outdoor Central remote controller Outdoor Central remote controller Outdoor Outdoor Central remote controller In case of central control in a single refrigerant line To procedure 1 In case of central control over refrigerant lines To procedure 2 Indoor Indoor Indoor Indoor Indoor Indoor Indoor Indoor Remote controller Remote controller Remote controller Remote controller Remote controller Remote controller Remote controller Remote controller Address setup procedure 1 1.

Turn on power of indoor/outdoor units. (In order of indoor ® Outdoor) 2. After approx. 1 minute, check that U. 1.

L08 (U. 1. flash) is displayed in 7-segment display section on the interface P board of the outdoor unit. .C.

3. Push SW15 to start the setup of the automatic addressing. (Max. 10 minutes for 1 line (Usually, approx. 5 minutes)) 4. When the count Auto 1 ® Auto 2 ® Auto 3 is displayed in 7-segment display section, and it changes from U. 1. - - - (U. 1. flash) to U.

1. - - - (U. 1. light), the setup finished. 5. When performing an automatic address setup on a single refrigerant line with central control, connect relay connected between [U1, U2] and [U3, U4] terminals in the header unit. Header unit interface P.C. board SW04 SW05 SW15 3 2, 4 D600 D601 D602 D603 D604 SW01 SW02 SW03 1 1 1 5 REQUIREMENT · When a group control is performed over the multiple refrigerant lines, be sure to turn on the power supplies of all the indoor units connected in a group at the time of address setup.



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· If turning on the power for each refrigerant line to set up address, a header indoor unit is set for each line.

Therefore, an alarm code "L03" (Duplicated header indoor units) is output in operation after address setup. In this case, change the group address from the wired remote controller for only one header unit is set up. U1 U2 U3 U4 U5 U6 For internal For internal wiring between For wiring of wiring between central control indoor and outdoor units system outdoor (Example) Cabling systematic diagram Group control over multiple refrigerant lines Outdoor Outdoor Header unit interface P.C. board ON ON ON ON 1234 1234 1234 1234 Indoor Indoor Indoor Indoor SW11 SW12 SW13 SW14 Remote controller Remote controller Remote controller Remote controller ON ON 1234 1234 ON ON ON 1 1234 1234 SW06 SW07 SW08 SW09 SW10 11 Continued Address setup procedure 2 1.

Using SW13 and 14 on the interface P board of the outdoor unit in each system, set up the address for each sys.C. tem. (At shipment from factory: Set to Address 1) Note) Be careful not to duplicate addresses with the other refrigerant line. Line address switch on outdoor interface P. C. board (j : Switch ON, x : Switch OFF) Line address 1 2 3 4 5 6 7 8 9 10 11 12 13 14 SW13 1 2 3 4 1 SW14 2 3 4 Line address 15 16 17 18 19 20 21 22 23 24 25 26 27 28 SW13 1 2 3 4 1 SW14 2 3 4 x j x x j j x j x x x x j j j j x j x x j x x x x x x x x j j j j j x x j j i i i i i i i i i i x j i i i i i i i x j x x j j x j x x x j j j x j x x j j x x x x x x x x j j j x j x x j j x x x x x x x x j i i i i i i i i i i x x x x j j x j x x x j j x j x x x x x x x x x x x x x x j j j x j x x j j x : Is not used for setup of system address. (Do not change setup.) 2. Check that the relay connectors between [U1, U2] and [U3, U4] terminals are not connected in all the outdoor units to which the central control is connected. (At shipment from factory: Connector not connected) 3. Turn on power of indoor/outdoor. (In order of indoor ® outdoor) 4. After approx. 1 minute, check that 7-segment display is U.

1.L08 (U.1. flash) on the interface P board of the outdoor unit. .C. 5. Push SW15 to start the setup of automatic addressing. (Max. 10 minutes for 1 line (Usually, approx.

5 minutes)) 6. When the count Auto 1 ® Auto 2 ® Auto 3 is displayed in 7-segment display section, and it changes from U. 1. - - - (U. 1. flash) to U. 1. - - - (U. 1. light), the setup finished.

7. Procedure 4. to 6. are repeated in other refrigerant lines. 8. How to set up the terminal resistance When all the address setups have finished in the same refrigerant circuit system, put the terminal resistance in the same central control line into one. · Remain only SW30-2 of the header outdoor unit with address 1 as ON. (With end terminal resistance) · Set up SW30-2 of the other header outdoor units to OFF. (Without terminal resistance) 9. Connect the relay connector between [U1, U2] and [U3, U4] of the header unit for each refrigerant line.

10. Then set up the central control address. (For the central control address setup, refer to the Installation manual of the central control devices.) 2 U1 U2 U3 U4 U5 U6 For internal For internal wiring between For wiring of wiring between central control indoor and outdoor units system outdoor Header unit interface P.C. board ON 12 SW30 SW30 ON ON ON ON 1234 1234 1234 1234 SW11 SW12 SW13 SW14 ON ON 1234 1234 ON ON ON 1 1234 1234 SW06 SW07 SW08 SW09 SW10 11 1 Header unit U3 U4 Follower unit U3 U4 12 2 Header unit U3 U4 Follower unit U3 U4 3 Header unit U3 U4 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 Before address setup During setup of address U1 U2 AB U1 U2 AB Relay connector U1 U2 AB U1 U2 AB U1 U2 AB Relay connector Remote controller Remote controller Remote controller Remote controller Individual Header unit U3 U4 SW30 12 ON OFF Group Follower unit U3 U4 12 ON OFF Header unit U3 U4 SW30 12 ON OFF Follower unit U3 U4 12 ON OFF Header unit U3 U4 SW30 12 ON OFF SW30 SW30 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 After address setup Relay connector U1 U2 AB U1 U2 AB Relay connector U1 U2 AB U1 U2 AB Relay connector U1 U2 AB Remote controller Remote controller Remote controller Remote controller Individual Group Outdoor interface P board .C. SW13, 14 (Refrigerant line address) Header unit Follower unit (Setup is unnecessary.) Header unit Follower unit (Setup is unnecessary.) Header unit Setup at shipment from factory 1 2 3 1 SW30-2 Terminal-end resistance of indoor/outdoor communication line/central control communication line ON (Setup is unnecessary).

) OFF after address setup (Setup is unnecessary.) OFF after address setup ON Relay connector Connect short after address setup Open Connect short after address setup Open Connect short after address setup Open Indoor side (Automatic setup) Refrigerant line address Indoor unit address Group address 1 1 0 1 2 0 2 1 1 2 2 2 3 1 0 NOTE Never connect a relay connector until address setup for all the refrigerant lines has been completed ; otherwise address cannot be correctly set up. 13 Continued Manual address setup from remote controller In case to decide an address of the indoor unit prior to finish of indoor wiring work and unpracticed outdoor wiring work (Manual setup from remote controller) Arrange one indoor unit and one remote controller set to 1 by 1. Turn on the power. 1 2 3 Push simultaneously SET + more.

LCD changes to flashing. Using the setup temp. item code. CL + TEST buttons for 4 seconds or (Wiring example in 2 lines) #1 Outdoor #2 Outdoor (Line address) / buttons, set 12 to the Indoor Indoor Indoor Indoor Indoor Using the timer time / buttons, set up the line address. (Match it with the line address on the interface P board of the .



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C. outdoor unit in the identical refrigerant line.) Push SET button. (OK when display goes on.) Using the setup temp. item code. Using the timer time address. // buttons, set Line address 1 Indoor address 1 Group address 1 Remote controller 1 2 2 1 3 2 2 1 2 2 2 4 5 6 Follower (Indoor address) Header 13 to the buttons, set up the indoor In the above example, under condition of no inter-unit wire of the remote controller, set the address after individual connecting of the wired remote controller. 7 8 9 10 Push SET button. (OK when display goes on.

) Using the setup temp. item code. / buttons, set Group address Individual : 0000 Header unit : 0001 Follower unit : 0002 (Group address) 14 to the } In case of group control Using the timer time / buttons, set Individual = Header unit = 0001 , Follower unit = 0002 . Push SET button. (OK when display goes on.) 0000 , Operation procedure 1 2 3 4 5 6 7 8 9 10 11 End 11 Push TEST button. Setup operation finished. (Status returns to normal stop status.) 2, 5, 8 Data 4, 7, 11 10 CODE No. SET DATA SETTING UNIT No.

R.C. No. Item code ON / OFF TEMP. TIMER SET TIME FILTER RESET TEST SET CL FAN SWING/FIX UNIT MODE VENT 1 3, 6, 9 Note 1) When setting the line address from the remote controller, do not use address 29 and 30.

The address 29 and 30 cannot be set up in the outdoor unit. Therefore if they are incorrectly set up, a check code [E04] (Indoor/outdoor communication circuit error) is output. 14 Clearance of address (Return to status (Address undecided) at shipment from factory) Method 1 An address is individually cleared from a wired remote controller. "0099" is set up to line address, indoor address, and group address data from the remote controller. (For the setup procedure, refer to the abovementioned address setup from the remote controller.

) Method 2 Clear the indoor addresses in the same refrigerant line from the outdoor unit. 1. Turn off the power of the refrigerant line to be returned to the status at shipment, and change the header unit to the following status. 1) Remove the relay connector between [U1U2] and [U3U4]. (If it has been already removed, leave it as it is.) 2) Turn on SW30-2 on the interface P board of the header unit if it is OFF .C. . (If it has been already ON, leave it as it is.) Central control device U1 U2 U3 U4 Header unit U3 U4 Follower unit U3 U4 Header unit Center U3 U4 Follower unit U3 U4 Header unit Center U3 U4 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 U5 U6 U1 U2 AB U1 U2 AB U1 U2 AB U1 U2 AB U1 U2 AB Remote controller Remote controller Remote controller Remote controller Unit of which address is to be returned to the initial status 2.

Turn on the indoor/outdoor power of which address is to be cleared. After approx. 1 minute, check that "U.1. - - -" is displayed, and then execute the following operation on the interface P board of the header unit of which address is .C. to be cleared in the refrigerant line. SW01 SW02 SW03 2 1 2 SW04

After checking that "A.d.buS" is displayed on 7-segment display, and then push SW04 for 5 seconds or more.

After checking that "A.d.nEt" is displayed on 7-segment display, and then push SW04 for 5 seconds or more. Address which can be cleared Line + Indoor + Group address 2 2 2 Central address 3. After "A.

d. c.L." has been displayed on 7-segment display, return SW01/SW02/SW03 to 1/1/1. 4.

When the address clearing has correctly finished, "U.1.L08" is displayed on 7-segment display after a while. If "A.d. n.G." is displayed on 7-segment display, there is a possibility which is connected with the other refrigerant line. Check again the relay connector between [U1U2] and [U3U4] terminals. Note) Be careful that the other refrigerant line address may be also cleared if clearing operation is not correctly executed.

5. After clearing of the address, set up an address again. 15 Troubleshooting in Test Operation If the phenomena appear, such as a check code is output or the remote controller is not accepted in power-ON after cabling work or in address setup operation, the following causes are considered. 1 A check code is displayed on the remote controller Cause Outdoor power is formerly turned on. There is none of outdoor terminator resistor, or there are two or more resistances. (After address setup) Countermeasures Turn on the power again. (In order of Indoor ① Outdoor) Check SW30 bit 2 of the outdoor unit. No connection between multiple refrigerant lines: SW30 bit 20N Connection between multiple refrigerant lines: SW30 bit 2 of the connected outdoor unit is turned on only in one line. Check and modifies disconnection of indoor/outdoor communication line. (Communication line between outdoor unit and the leading indoor unit) Check influence of communication noise.

Set up address again. Check code Outdoor unit displayed on 7-segment remote controller display E04 E19-00 After address was decided, all the indoor units do not correctly response after power-ON in outdoor unit. ON 12 SW30 L08 Address setup error · Only line addresses of the connected indoor units are undefined. · The outdoor line address and the line addresses in all indoor units do not match. · The indoor addresses are duplicated.

(Units except those displaying E04 are duplicated.) · A header unit is not set up in a group. (Except group displaying E04) Duplication of indoor addresses. (Address No in which sub-code of the check code are duplicated) There is none of outdoor terminal resistance, or there are two or more resistances. (After address setup, when terminal resistance setup is changed after power-ON.

) Transmission circuit error at interface side (P board failure) .C. E06 After address setup, communication from all the indoor units interrupted under condition that a normal operation can be performed. ON 12 E08-XX Set up address again. E07 SW30 Check SW30 bit 2 of the outdoor unit. No connection between multiple refrigerant lines: SW30 bit 20N Connection between multiple refrigerant lines: SW30 bit 2 of the connected outdoor unit is turned on only in one line. Replace the interface P board. .C. Check and correct disconnection of indoor/outdoor communication line.

(Communication line between outdoor unit and the leading indoor unit) Check influence of communication noise. Adjust No of connected indoor units or capacity. Do not use a manual setup for outdoor address. Modify line address setup of the outdoor unit between lines. (Set up SW 13 and 14 on the interface P board.) .C. E16 E25 L04 E16-XX E25 L04 Exceeded No of connected indoor units or exceeded capacity. Duplication of outdoor addresses. (Only when outdoor address was manually set up) Duplication of outdoor line addresses · Line address setup error, occurred after connection between U1, U2 and U3, U4 connectors Duplicated of indoor units with priority There are two or more indoor units set up with priority.



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L05 (*) L06 (*) L08 L06 The Heat Recovery Multi is not set up on priority. L08 Address setup error - Only indoor addresses of all the connected indoor units are undefined. Set up address again. (*) [L05] : Displayed on the indoor unit set up with priority [L06] : Displayed on the indoor unit except one set up with priority 16 2 Operation from remote controller is not accepted and a check code is displayed on 7-segment display of the interface P.C.

board of the outdoor unit. 7-segment display of outdoor unit L08 Cause Line addresses and indoor addresses of all the connected indoor units are unset. There is no outdoor unit of group control. E19-00 Indoor unit power is not turned on. Indoor/outdoor communication line is not correctly connected to the outdoor unit.

(Indoor/outdoor cannot communicate before address setup.) There is none of outdoor terminator resistor, or there are two or more resistances. (Before address setup) ON 12 Remote controller status No response Countermeasures Set up addresses. Set up group address. Turn on the power again. (In order of indoor @ outdoor) Correct wiring. SW30 Check SW30 bit 2 of the outdoor unit. No connection between multiple refrigerant lines: SW30 bit 2 ON Connection between multiple refrigerant lines: SW30 bit 2 of the connected outdoor unit is turned on only in one line. Correct wiring. Correct wiring.

E20-01 Address setup is performed with connecting indoor/outdoor communication line between outdoor units. Address setup is performed under condition of connecting between multiple refrigerant lines. 3 There is no display of a check code on 7-segment display on the interface P.C. board of the outdoor unit though there is indoor unit which does not accept the operation from the remote controller. 7-segment display of outdoor unit None Cause Communication line is not connected between indoor and outdoor. Line and indoor addresses are unset. (Unit which does not respond to remote controller) The power of the header unit of the group is not turned on in indoor group control. (Unit which does not respond to remote controller) Group address is set up to follower unit in the individual control. (Unit which does not respond to remote controller) Modify wiring.

Set up address. Turn on the power. Countermeasures Remote controller status No response Set [0] to group address in case of individual control. Turn on the power. Correct wiring.

Correct wiring. Remove FASTON terminal connected to remote controller terminals (A/B), and check the voltage. If voltage is not applied, replace P board. .C.

(15 to 18V usually) No display on remote controller (No line is output.) None The power is not turned on. (Unit which is not displayed on remote controller) Remote controller is not connected with cable. (Unit which is not displayed on remote controller) Miscabling of remote controller (Unit which is not displayed on remote controller) Remote controller communication circuit error (Unit which is not displayed on remote controller) If 230V is incorrectly applied to the remote controller terminal, the remote controller communication circuit fails. 4 In check for No. of connected outdoor units and connected Indoor units after address setup, diminished No. of connected units displayed. (There are outdoor/indoor units which do not operate in a test operation.) Status Cause Miswiring of communication line between outdoor units or unconnected cable. (Address setup operation has finished without recognition of miswired follower unit.

) Miswiring of communication line between indoor units or unconnected cable. (Address setup operation has finished without recognition of miswired indoor unit.) Remote controller is not connected with wire. Miscabling of remote controller Remote controller communication circuit error If 230V is incorrectly applied to the remote controller terminal, the remote controller communication circuit fails. Countermeasures After modification of wiring, set up address again and check No. of the connected outdoor units. Number of connected outdoor units is short. Number of connected indoor units is short. Number of outdoor units connected to group is short in group operation from remote controller. After modification of wiring, set up address again and check No. of the connected indoor units. Using the main remote controller connected to a group, start a test operation, specify the unit which does not operate (Unit unconnected to group), and then check wiring. Using the main remote controller connected to a group, start a test operation, specify the unit which does not operate (Unit unconnected to group). Remove Fasten receptacle connected to remote controller terminals (A/B), and check the voltage. If voltage is not applied, replace P board.

(15 to 18V in normal time) .C. 17 Monitor Function of Remote Controller Switch n When using a remote controller with the model name RBC-ATM21E, the following monitor functions can be used. <Calling of display screen> [Contents] The temperature or the operation status of the remote controller, indoor unit, or each sensor of the outdoor unit can be known by calling up the service monitor mode from the remote controller. CODE No.

UNIT No. [Procedure] 1 2 3 4 Push CL + TEST buttons simultaneously for 4 seconds or more to call up the service monitor mode. The service monitor goes on, and temperature of the item code 00 is firstly displayed. Push the temperature setup / buttons to select the item number (Item code) to be monitored. For displayed codes, refer to the table below. Push UNIT button to change the item to one to be monitored. Then monitor the indoor unit and sensor temperature or operation status in the corresponding refrigerant line. Pushing TEST TEMP. ON / OFF 4 1 TIMER SET TIME FILTER RESET TEST SET CL FAN SWING/FIX UNIT MODE VENT 2 3 Operation procedure 1 2 3 4 Returns to the normal display button returns the display to the normal display. Item code 00 01 Indoor unit data (NOTE 2) Data name Room temp (During control) Room temp (Remote controller) Indoor suction temp (TA) Indoor coil temp (TCJ) Indoor coil temp (TC2) Indoor coil temp (TC1) Indoor discharge temp (Tf) Note 1) Indoor PMV opening No.

of connected indoor units Total HP of connected indoor units No. of connected indoor units Total HP of outdoor units Unit °C °C °C °C °C °C °C pulse unit HP unit HP Display format Item code 10 11 12 Data name Compressor 1 discharge temp (Td1) Compressor 2 discharge temp (Td2) High-pressure sensor detention pressure (Pd) Low-pressure sensor detention pressure (Ps) Suction temp (TS) Outdoor heat exchanger temp (TE) Temp at liquid side (TL) Outside ambient temp (TO) Low-pressure saturation temp (TU) Compressor 1 current (I1) Compressor 2 current (I2) PMV1 + 2 opening Compressor 1, 2 ON/OFF Outdoor fan mode Outdoor unit HP Unit °C °C MPa MPa °C °C °C °C °C A A pulse -- -- HP Display format ×1 ×1 × 100 × 100 ×1 ×1 ×1 ×1 ×1 × 10 × 10 × 1/10 Note 3) 0 to 31 ×1 02 03 04 05 06 08 0A ×1 ×1 ×1 ×1 × 1/10 Outdoor unit individual data (NOTE 4, 5) 13 14 15 16 17 18 19 1A 1b 1d System data 0b 0C 0d × 10 1E × 10 1F Note 1) Note 2) Note 3) Note 4) Note 5) Only a part of indoor unit types is installed with the discharge temperature sensor.



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This temperature is not displayed for other types. When the units are connected to a group, data of the header indoor unit only can be displayed. 01 : Compressor 1 only is ON. 10 : Compressor 2 only is ON. 11 : Both compressor 1 and 2 are ON. The item codes are described as the example of the header unit. The upper digit of an item code represents the outdoor unit number. 1 : Header unit (A) 2 : Follower unit (B) 3 : Follower unit (C) 18 Confirmation of indoor unit address and position by using the remote controller [Confirmation of indoor unit address and the position] 1 When you want to know the indoor address though position of the indoor unit itself can be recognized; <Procedure> (Operation while the air conditioner operates) 1 2 If it stops, push UNIT ON / OFF button.

CODE No. UNIT No. Push button. The unit No. 1-1 is displayed on the LCD.

(Disappears after several seconds) The displayed unit No indicates the line address and indoor address. @@@@. Unit No. is displayed. @@@. The firstly displayed unit No. indicates the address of the header unit.

· Only fan of the selected indoor unit is turned on. Push TEST button to finish the procedure. @@ and position in the same refrigerant line can be confirmed. @@ Firstly, the line 1, item code AC (Address Change) is displayed. @@@@. Push TEST button to finish the procedure. 1 2 3 4 5 6 End Change of indoor address from remote controller Change of indoor address from wired remote controller · To change the indoor address in individual operation (Wired remote controller : Indoor unit = 1 : 1) or group control (When the setup operation with automatic address has finished, this change is available.) <Procedure> (Operation while air conditioner stops) 1 2 3 4 5 6 7 8 Push simultaneously SET + CL + TEST buttons for 4 seconds or more. (The firstly displayed unit No. indicates the header unit in group control.) In group control, select an indoor unit No.

to be changed by UNIT button. (The fan of the selected indoor unit is turned on.) Using the setup temp. code. / buttons, set 13 to the item CODE No. SET DATA SETTING UNIT No. R.C. No. Using the timer time / buttons, change the displayed setup data to a data which you want to change. Push SET button. Using the UNIT button, select the unit No. to be changed at the next time. Repeat the procedure 4 to 6 and change the indoor address so that it is not duplicated. After the above change, push changed contents.

@@@@ First the current indoor address is displayed on the setup data. @@@ Only fan of the selected indoor unit operates. @@ Push SET button. @@@@ When the count arrives "0000", the error is cleared. @@@@ The firstly displayed unit No.

indicates the master indoor unit address in the group control. In this time, the fan of the selected indoor unit is turned on. @@ In this time, the fan of the selected indoor unit only is turned on. Specify the item code (DN) using the setup temperature and buttons. Select the setup data using the timer time and buttons. @@@. To change the item to be set up, return to procedure 3. @@ the header unit. No. @@ [Release] Return SW01, SW02, SW03 to "1". @@ [Release] Return SW01, SW02, SW03 to "1".

@@ [Release] Return SW01, SW02, SW03 to "1". @@ [Release] Return SW01, SW02, SW03 to "1". @@ (1 to 64) to be started. [Release] Return SW01, SW02, SW03 to "1". 7-segment display Section A [C] Section B [C] All cooling Changes the mode of all the connected indoor test operation units collectively to cooling test operation. Note) Control operation same as test operation for remote controller. All heating Changes the mode of all the connected indoor test operation units collectively to heating test operation. Note) Control operation same as test operation for remote controller. Batch start Starts all the connected indoor units collectively. Note) The contents follow the setup of remote controller.

Stops all the connected indoor units collectively. 2 Section A [H] Section B [H] 3 Section A Section B [CH] [11] [11] is displayed on Section B for 5 seconds. Section A Section B [CH] [00] [00] is displayed on Section B for 5 seconds. Section A Section B [] [] Section A: Displays the corresponding indoor address. Section B: Displays [11] for 5 seconds from operation-ON.

Section A Section B [] [] Section A: Displays the corresponding indoor address. Section B: Displays [00] for 5 seconds from operation-OFF. Section A Section B [] [] Section A: Displays the corresponding indoor address. Section B: Displays [FF] for 5 seconds from test operation-ON. Batch stop 4 Individual start Starts the specified indoor unit.

Notes) · Control operation same as test. · The other indoor units keep existing status. Individual stop Stops the specified indoor unit. Note) The other indoor units keep existing status. [Setup] Push SW05 for 2 seconds or more set SW01 "16" and set SW02 and SW03 to address No. (1 to 64) to be stopped. [Release] Return SW01, SW02, SW03 to "1". Individual test Operates the specified indoor unit. operation Note) The other indoor units keep existing status. [Setup] Push SW04 for 10 seconds or more set SW01 "16" and set SW02 and SW03 to address No.

(1 to 64) to be operated. [Release] Return SW01, SW02, SW03 to "1". Note 1) Note 2) This start/stop function only sends the command signals from the outdoor unit to the indoor unit, such as start, stop, operation mode, etc. Once it does not resend the signals even if the indoor unit does not follow the sent signals. The above controls are not available when an error has caused the system to stop. 7-segment display [A] Interface P.C. board SW04 7-segment display [B] SW05 SW01 SW02 SW03 Rotary switch 25 1 Continued Data display of system information (Displayed on the header outdoor unit only) Display contents Refrigerant name Displays refrigerant name. Model with refrigerant R410A Model with refrigerant R407C 2 3 4 5 6 7 8 9 System capacity No. of outdoor units No.

of connected indoor units/ No. of units with cooling thermo ON No. of connected indoor units/ No. @@ of connected units) : 0 to 48 units (No. of connected units) [C0] to [C48] : 0 to 48 units (No. of units with cooling thermo ON) [H0] to [H48] : 0 to 48 units (No. @@ C in the left figure goes on: Follower requests oil-equalization. @@@@. 1.

0. *. *. *. *. *. *. *. B *

*. *. *. *. *. *. *. *.
*. *. *. *. *.
*. *. *. *. *.
*. *. *. *. *. *. *.

*. *. 1. *. *. *.

. @@@@ Data display with Hexadecimal notation: [00 to FF] : Inverter frequency is exchanged to decimal notation. : [*] [* * H] (Normal display by pushing <SW05>) SW01 SW02 SW03 1 1 1 <SW04> push function 7-segment display (A/B) 6 Outdoor fan step A B 7 Compressor backup A B 8 -- A B 9 Control valve output data [FP] Step 0 to 31: [0 to 31] Displays No.1 compressor setup status Normal: [], Backup setup: [C1] Displays No.

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2 compressor setup status Normal: [], Backup setup: [C2] -- -- A .

.....
.....
... 5. 0 ... 5.
1 3. 1 3. 0 3. 0 3. 0 4.
... 4. .
.. -- --

... ** ... * 000 10 0 010 001 10...
0 1... ..
.....
..

. ** . P * * . P B Displays control output status of solenoid valve 4-way valve: ON 4-way valve: OFF H. 1 H. 0 2. 1 2. 0 10 SV2: ON / SV5: OFF SV2: OFF / SV5: ON 11 SV3A: ON / SV3B: OFF / SV3C: OFF / SV3D: OFF SV3A: OFF / SV3B: ON / SV3C: OFF / SV3D: OFF SV3A: OFF / SV3B: OFF / SV3C: ON / SV3D: OFF SV3A: OFF / SV3B: OFF / SV3C: OFF / SV3D: ON 12 SV41: ON / SV42: OFF SV41: OFF / SV42: ON 13 14 15 16 PMV1 / PMV2 opening -- Oil level judgment status Displays opening data (Decimal) (Total opening) -- A [oL] [SW05] push SW function: The following data is displayed for 2 seconds. * During oil shortage in compressor 1: [L..], during oil shortage in compressor 2: [... L] Initial display: [.

...], Oil level judgment result: [A. #. *] Judgment result of compressor 1 in [#], compressor 2 in [*] (0: Normal, 1, 2: Shortage) is displayed. B 27 3 Continued Data display of outdoor cycle (Displayed on each outdoor unit) Display contents Pd pressure data Ps pressure data PL pressure conversion data TD1 sensor data TD2 sensor data TS1 sensor data TS2 sensor data TE sensor data TL sensor data TO sensor data TK1 sensor data TK2 sensor data TK3 sensor data TK4 sensor data -- -- A B 16 A B -- -- Pd pressure (MPaG) is displayed with decimal data. (MPaG: Approx. 1/10 value of kg/cm2G data) Ps pressure (MPaG) is displayed with decimal data. Estimated pressure of liquid line (MPaG) is displayed with decimal data.

Temperature sensor data (°C) is displayed with decimal notation. · Symbol display for 1 sec. and data display for 3 sec. are alternately displayed. · Data is displayed in [*]. · Negative data is displayed as [* * * *]. 7 8 9 10 11 12 13 14 15 Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data Symbol Data A P d. P S. P L. td * td * tS * tS * tE -- tL * to * F1 * F2 * F3 * F4 * * * .

* * * . * * * . * * * . * * * . * * * .
* B * . * * * . * * * . * * * . * 2 * * .

* 1 * * . * 2 * * . * -- -- SW01 SW02 SW03 1 1 2 3 4 5 6 2 4 Data display of indoor unit information (Displayed on the header unit only) SW02 1 to 16 SW03 1 to 3 Receiving status of indoor BUS communication Indoor check code Indoor capacity (HP) horse power Indoor request command (S code) Indoor PMV opening data Indoor TA sensor data Indoor TF sensor data Indoor TCJ sensor data Indoor TC1 sensor data Indoor TC2 sensor data B B B B B B B B B B Display contents Receiving time: [... .. 1], Not received: [..

.] No check code: [] 0. 2, 0. 5, 0.
8, ... 1, 1. 2, 1.
7, ... 2, 2. 5, .
.. 3, 3. 2, ... 4, ... 5, .

.. 6, ... 8, 1 0, 1 6, 2 0 Data is displayed with Hexadecimal notation [... ..
. 0 to

.. F] : Heating Data is displayed with Hexadecimal notation Data is displayed with Hexadecimal notation Data is displayed with Hexadecimal notation Data is displayed with Hexadecimal notation SW01 4 5 6 7 8 9 10 11 12 13 Note) Indoor address No. is chosen by changing SW02 and SW03. SW03 1 2 3 SW02 1 to 16 1 to 16 1 to 16 Indoor address SW02 setup number SW02 setup number + 16 SW02 setup number + 32 7-segment display A [01] to [16] [17] to [32] [33] to [48] 28 5 Outdoor EEPROM check code display (Displayed on the header unit only) * The latest check code written in EEPROM on each outdoor unit is displayed.

(It is used when confirming the check code after power supply has been reset.) Set SW01 to 03 as shown in the following table and the push SW04 for 5 seconds or more to display an check code. SW01 SW02 SW03 1 1 2 3 16 Display contents The latest check code of the header unit 1 (U1) The latest check code of the follower unit 1 (U2) The latest check code of the follower unit 2 (U3) 7-segment display A B E. r 1. E. r 2. E. r 3. 6 Service support function list Function contents Refrigerant circuit and control communication line check function (Cooling operation) Refrigerant circuit and control communication line check function (Heating operation) Indoor PMV forced full open function Indoor remote controller discriminating function Cooling test operation function Heating test operation function Indoor collective start/stop (ON/OFF) function Error clear function Solenoid valve forced open/close function Fan forced operation function Outside temp sensor manual adjustment function 6 2 8 4]]] Indoor No. 1 to 16 unit Indoor No.

17 to 32 unit Indoor individual start/stop (ON/OFF) function Indoor No. 33 to 48 unit Indoor No. 49 to 64 unit SW01 SW02 SW03 7-segment display [B] 1 [JC] 2 [JH] 3 [P] 2 4 1 [A1] 5 [C] 6 [H] 7 [CH] 16 [Er] 3 1 to 16 4 to 5 15 1 2 3 4 [0] [1] [3] [4] [Hr] [Fd] [to] [1] [7] [3] [9] to to to to [1] [3] [4] [6] [2] [16] to 16 7 Pulse Motor Valve (PMV) Forced Open Fully/Close fully Function in Outdoor Unit This function is provided to forcedly open or close fully P.M.V. (PMV1/PMV2/PMV3) used in the outdoor unit for 2 minutes. [Open fully] Short-circuit for CN30 on the outdoor interface P board. .C. [Clear] After 2 minutes, the opening returns to the normal opening.

Be sure to remove the short-circuited (as short pin, etc.) after confirmation. [Close fully] Short-circuit for CN31 on the outdoor interface P board. .C. [Operating method] Select one of PMV1 or PMV2 to open. Turn SW12 bit 1 to OFF when handling (PMV1/PMV2), and turn it to ON when selecting PMV3. I/F P.C. board Check connector CN30 Check connector CN31 <Enlarged diagram of switch position> 29 8 Continued Solenoid Valve Forced Open/Close Function in Outdoor Unit This function is provided to forcedly open each solenoid valve mounted in the outdoor unit by the switch operation on the interface P board in the outdoor unit to using this function, check there is no refrigerant clogging with ON/OFF .

C. operation of the solenoid valve. [Operation] 1. 2. 3. 4. Set the switch on the interface P board SW01 to [2], SW02 to [1], SW03 to [3]. .C. When [H.] is displayed in 7-segment display [A], keep pushing the switch SW04 for 2 seconds or more. From when [2] is displayed in 7-segment display [B], SV2 is turned on. After then, ON and OFF of each solenoid valve are exchanged by changing the setup number of the switch SW02. (ON/OFF output pattern of each solenoid valve is as below.) Note 1) Display in 7-segment display [B] is exchanged just when the number of SW02 has been changed, on the other hand, the solenoid valve output is exchanged when SW02 has kept with the same number for 5 seconds or more. Note 2) The mark [i] in the table indicates the corresponding solenoid valve is forcedly turned on. Note 3) The mark [--] in the table indicates ON/OFF of the solenoid valve is controlled based upon the specifications of the air conditioner. Note 4) The mark [x] in the table indicates the corresponding solenoid valve is forcedly turned off with this operation.



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<Work procedure> 1. Turn off the main power supplies of all the units connected to the system. [Setup for the defective outdoor unit] (The following work is common to header unit and follower unit which have been defective.) 2. Turn on both Dip SW06 Bit 1 and Bit 2 on I/F P board. .C. 3.

Close fully service valve of the liquid pipe if there is leak (Not close) error of outdoor PMV. 4. Turn on the main power supplies of all the units connected to the system. When the error is the compressor insulation error or etc, remove the lead wire of the compressor before power-ON. Then the backup setup of the outdoor unit is completed. Turn on Dip SW06/Bit 1 and Bit 2. 33 Oil Level Judgment Display The judgment result of the current oil level of the compressor can be confirmed by the switch setup on the interface P .C. board of the outdoor unit. Confirm the result in the following procedure.

n Operation procedure 1) Start the operation. 2) Set up the switches on the interface P board of the outdoor unit of which judgment result of oil level is to be .C. confirmed as shown below. SW01/SW02/SW03 = 1/1/1 3) The judgment result of the oil level is displayed on 7-segment display.

7-segment display [oL] [A00] The right 3 digits indicate the judgment result. The judgment results of the oil level in compressor 1 and compressor 2 are displayed. (Example: A j o = j : Oil level result of compressor 1, o : Oil level result of compressor 2 Display example 7-segment display [oL] [A00] : Oil level is appropriate in compressor 1 and 2. [oL] [A01] : Oil level is appropriate in compressor 1, and shortage in compressor 2 [oL] [A20] : Oil shortage in compressor 1, and appropriate in compressor 2 Judgment result in compressor 2 Judgment result in compressor 1 For the contents of judgment result, refer to the following table.) Judgment result of oil level 7-segment display 0 1 2 A B C D Judgment result Appropriate Shortage TK1 circuit error TK2 circuit error TK3 circuit error TK4 circuit error Contents Oil level inside of the compressor is appropriate.

Shortage of oil level in the compressor (Both A1 and A2 indicate shortage.) If this judgment continues, the system stops for protection. TK1 circuit error is considered. If this judgment continues, the system stops for protection. TK2 circuit error is considered. If this judgment continues, the system stops for protection. TK3 circuit error is considered. If this judgment continues, the system stops for protection. TK4 circuit error is considered. If this judgment continues, the system stops for protection.

4) After confirmation, return SW01/SW02/SW03 to (1/1/1). Refrigerant Recovery When Replacing the Compressor Refrigerant recovery in the troubled outdoor unit 34 A pump-down function if prepared to this system. For multiple outdoor unit system, execute pump-down by using the normal outdoor units and refrigerant can be recovered from the outdoor unit to be repaired 1 Before refrigerant recovery operation Pay attention to the following items during pump-down operation. Note 1) The refrigerant recovery rate changes with the outside temperature, etc. in the pump-down operation. When the pump-down operation has finished, be sure to recover the remaining gas using a recovery device and measure the recovered refrigerant amount. (Executing pump-down operation when pump-down operation is operated with heating accumulator of the outdoor unit to be repaired improves refrigerant recovery rate.) Note 2) After this work, the system cannot operate until the defective outdoor unit has been repaired. (As the operation becomes refrigerant overcharge operation, a continuous operation is unavailable.) Note 3) While both outdoor pulse motor valves are closed (cannot open the valves), the refrigerant in the heat exchanger cannot be recovered.

If executing welding after pump-down operation, recover the refrigerant in the heat exchanger before work. 2 Refrigerant recovery procedure (In case of no backup operation for outdoor unit) <Work procedure> Turn on the power supply of the system, and stop status of system operation. If a trouble is an insulation error of the compressor, remove wiring to the compressor before turning on the power supply. [Setup for the outdoor unit with trouble] 1. Using a charge hose, connect the check joint of the liquid pipe and the check joint at low-pressure side, and then purge the air in the hose.

(To recover refrigerant in the heat exchanger and the liquid tank) 2. @@(Keep service valve of the suction gas pipe and the balance pipe opened.) 3. If it is considered that the oil has deteriorated due to trouble of the compressor, take off SV3A valve connector of the outdoor unit with trouble so that the deteriorated oil does not flow in the other outdoor units. 4.

Set the rotary SW01/02/03 to 2/1/1 on the interface P board of the troubled outdoor unit and then push SW04 for 5 .C. seconds or more after [rd] [] have been displayed on 7-segment display section. 5. [rd] [FF] have been displayed on 7-segment display, and then a pump-down operation starts. * When interrupting the operation, turn off the power supplies of all the outdoor units or push SW05 on the interface P board. .C. Header unit with trouble 3 If oil deteriorates due to trouble of the compressor, remove SV3A# connector. 1 Connected with check joint of the liquid pipe and check joint at low pressure side by a charge hose and purge.

2 Close fully service valve at liquid side and discharge gas side. (Keep suction gas and balance side opened.) Trouble outdoor interface P.C. board 4 Set rotary SW01/02/03 to 2/1/1. [rd] [] are displayed. ~ Push the push SW04 for 5 seconds or more. 5 [rd] [FF] are displayed. Operation during pump down operation Outdoor unit Outdoor unit with trouble Other outdoor units Operation contents Compressor stops. Outdoor fan ON PMV1 and PMV2 open. SV3A/3B/3C/3D/3E ON Operates in test COOL operation 35 Continued 6. Close fully the service valve of the suction gas pipe of the troubled outdoor unit approx. 10 minutes after the system has started. 7. Push the push SW04 of the troubled outdoor unit in order to display the pressure data (MPa). (Every pushing SW04, the displayed data changes successively.) Display Example [rd] [11] Initial display [Pd] [1.20] High pressure [Ps] [1.20] Low pressure [Selection of outdoor unit for pressure adjustment] 8. For the outdoor units which are operating with pump-down mode, the outdoor unit having the least unit number is selected as the outdoor unit for adjustment of pressure.

Unit No. While SW01/02/03 are set to 1/1/1, the number displayed on 7-segment display indicates the unit No. ([U#] []: # indicates the unit No.) [Selection for outdoor units other than unit for adjustment of pressure and troubled unit] 9. Keep only the service valve of balance pipe of the unit for pressure adjustment and the troubled unit fully opened, and close fully the service valves of other outdoor unit balance pipes.



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