FUJITSU

Service Tips

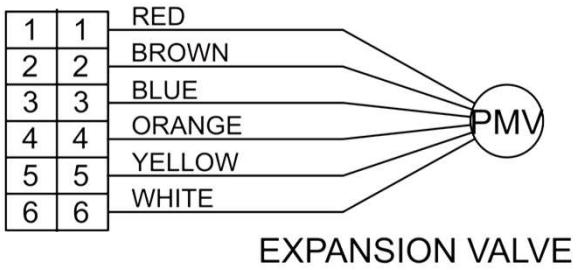
Electronic Expansion Valve Check (EEV Coil)

Conditions:

- Restrictions
- Low Charge
- Defective Electronic Expansion Valve (EEV)

To check EEV Coil of the system in question, power off the outdoor unit for 5 minutes. When system has discharged accordingly, Unplug coil and check the EEV's ohm values and ensure they are correct (see below resistance values)

6 wire



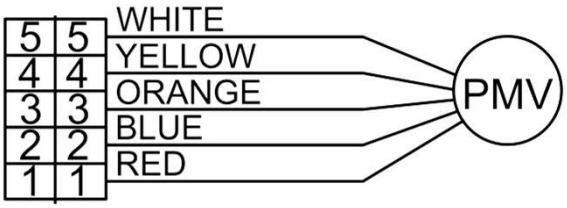
Check Point 2 : Check coil of EEV

・Remove connector, check each winding resistance of Coil.

Read wire	Resistance value
White - Red	46Ω ± 4Ω at 20°C
Yellow - Brown	
Orange - Red	
Blue - Brown	

▶ **If Resistance value is abnormal, replace EEV.**

5 wire



Check Point 2 : Check coil of EEV

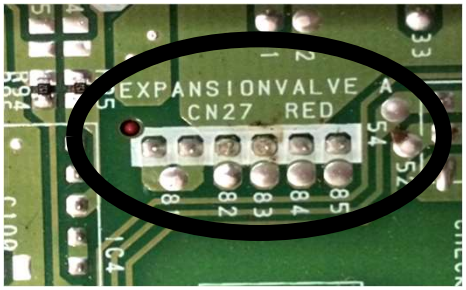
・Remove connector, check each winding resistance of Coil.

Read wire	Resistance value
White - Red	46Ω ± 4Ω at 68°F (20°C)
Yellow - Red	
Orange - Red	
Blue - Red	

▶ **If Resistance value is abnormal, replace EEV.**

If the EEV's ohm readings are incorrect replace coil. The EEV coil snaps onto the metering valve. If the EEV ohm values are correct, there is likely a leak in the system. The most common places for leaks are on the flare connections at the indoor and outdoor units. If the EEV coil is good and there is no leak there may by a restriction. Purge system with nitrogen to possibly detect where restriction may be, or the metering valve may have to be replaced.

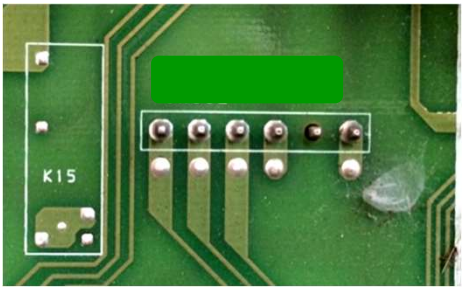
Checking for 12 volts DC output from Control Board



Test on all 5 or 6 solder points on the board, according to the color code sequence and verify voltage reads 11.5 to13.5 volts DC.

NOTE:
Use wiring schematic per system service manual

Find and use a DC ground on the outdoor main control board.



On multi-zone systems look for (fan motor connector) for DC ground.

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

Active Filter Module (ACTPM Check)

Examples of Active Filter Module error on most models:
8x Operation & 2x Timer / 8x Operation & 3x Timer / 6x Operation & 4x Timer / Continuous Operation blink & 12x Timer / E:641
22x flashes LED 1 / E:19

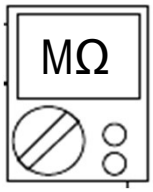
The Active Filter Module is a PCB that will filter the harmonic current. Its output is supplied to the IPM PCB. If the unit has been installed and operating normally but suddenly shows a communication error after a power outage or thunderstorm, you may suspect the ACTPM failure. Test it with an ohm meter and determine if it needs a replacement. Remember to remove power and wait five minutes before unplugging the PCB for testing.

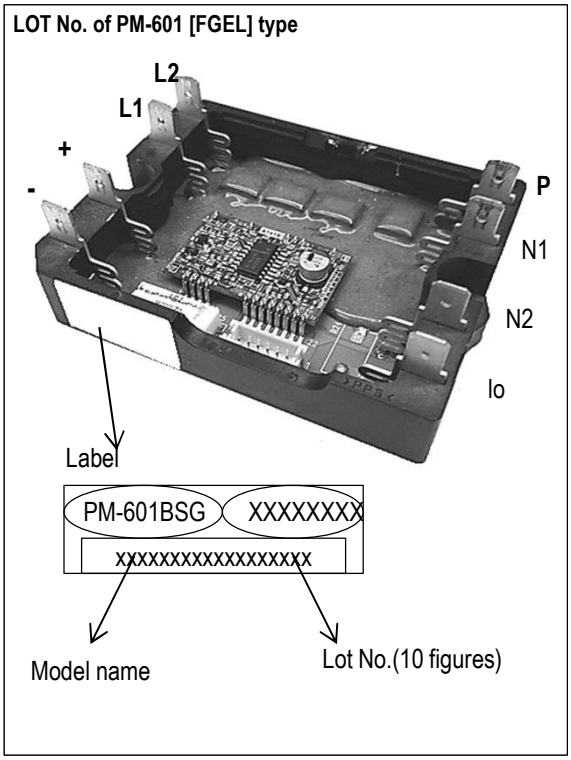
Check Points: Check Open or Short-circuit and Diode.

Remove all connectors first !!!

Check the open or short-circuit

Terminals		Resistance Value			
		Type A		**Type B**	
Multimeter (+)RED	Multimeter (-)BLACK	SACT32010 [HITACHI] LACT33020 [HITACHI]		PM-604 [FGEL] PM-703 [FGEL]	
		PM-601 [FGEL] LOT No. 1302931395		PM-601 [FGEL] LOT No. 1302931396	
+ (+IN)*	- (-IN)*	360kΩ ± 20%		360kΩ ± 20%	
- (-IN)*	N1 (N)*	0Ω		0Ω	
P	+ (+IN)*	720kΩ ± 20%		900kΩ ± 20%	
L1	L2	1.01MΩ (Ref. 1)	0.76MΩ (Ref. 2)	1.01MΩ (Ref. 1)	0.76MΩ (Ref. 2)
P	N1 (N)*	360kΩ ± 20%		540kΩ ± 20%	
L1 L2	Control Box Earth ground	∞ Ω (O/L)		∞ Ω (O/L)	
L2	N1 (N)*	1.65MΩ (Ref. 1)	1.14MΩ (Ref. 2)	1.65MΩ (Ref. 1)	1.14MΩ (Ref. 2)





Standard values change depending on the meter used for testing
(Type A and B are the same values).

Check the diode

Terminal		Resistance value	
Multimeter (+)	Multimeter (-)		
L2	P	1.32MΩ (Ref. 1)	0.66MΩ (Ref. 2)
P	L2	1.01MΩ (Ref. 1)	0.76MΩ (Ref. 2)

If it is abnormal, replace ACTIVE FILTER MODULE.

Ref. 1

Specifications for Multimeter
Manufacturer : FLUKE
Model name: FLUKE11
Power source: DC9V

Ref. 2

Specifications for Multimeter
Manufacturer : SANWA
Model name: PM3
Power source: DC3V

If error codes shows pointing at the ACTPM PCB:

Check the Output DC voltage (between P and N1) while compressor is stopped and while it's operating. If the output voltage while compressor is operating is less than the output voltage while compressor is stopped, Active Filter Module is defective. Error condition other than communication mentioned above will show. If ACTPM PCB is defective, always test the IPM PCB as well.

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

Inverter Power Module (IPM Check)

Some examples of an IPM error on most models:

5x Operation & 2x Timer / 6x Operation & 5x Timer / E:65 (wired remote) / E:653 (HFI) / Continuous Operation blink & 10x Timer (universal mount/ceiling suspended) / E:17 (wired remote) / 12x flashes LED 1 (condenser)

The Inverter Power Module (IPM) is located where the compressor leads attach to the printed circuit board(PCB). They are marked U,V, W on the PC Board and where the Yellow and Blue wires attach P and N.

1. Turn power off to outdoor unit and wait 3 minutes for DC voltage to discharge.
2. Check that IPM is wired correctly. (According to Schematic)
3. Check the following resistance values on the IPM. (Before taking resistance readings remove all wires connected to the IPM. On certain models the red and black wires to the ACTPM and white and black wires on control board should also be removed.)
4. All readings on test 1 should be within +/- 20 ohms of each other and test 2 should be within values shown.
5. If the readings on Tests 1 or 2 are incorrect and the wiring is correct replace the board that contains the IPM and depending on model the ACTPM board if it has one.
6. When your IPM is bad you will also need to ohm out compressor and test outdoor fan motor according to Tech Tip #008 and confirm both are good before replacing the IPM or any other boards.

Test 1

Place meter in (Mega Ohms)

Terminal		Resistance Value
Tester (+)	Tester (-)	
P	U	Over 2k Ω (Including ∞ Ω)
P	V	
P	W	
U	P	Over 20k Ω (Including ∞ Ω)
V	P	
W	P	
N	U	
N	V	
N	W	
U	N	Over 2k Ω (Including ∞ Ω)
V	N	
W	N	

Test 2

Place meter in (Diode mode)

Terminal		Tester Display
Tester (+)	Tester (-)	
P	U	∞
P	V	
P	W	
U	P	0.3 V ~ 0.7 V
V	P	
W	P	
N	U	
N	V	
N	W	
U	N	∞
V	N	
W	N	

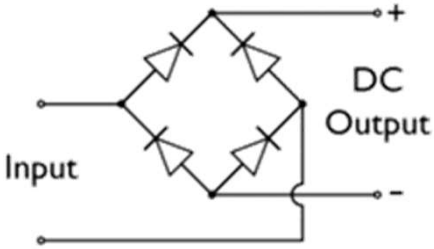
NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

Diode Bridge-Bridge Rectifier Test

Select this symbol on the meter.



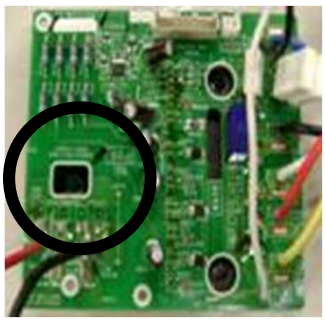
Meter Leads		Resistance
Black	Red	
(+)	~	0.4 – 0.7
	~	0.4 – 0.7
~	(-)	0.4 – 0.7
~		0.4 – 0.7

When checking for a communication error and found that the outdoor unit is not communicating, one of the test you are required to conduct will be the Bridge Rectifier Test.

Meter Leads		Resistance
Black	Red	
(-)	~	OL
	~	OL
~	(+)	OL
~		OL

FOR THE DIODE BRIDGE RECTIFIER LOCATION REFER TO THE BELOW PICTURES BY MODEL.

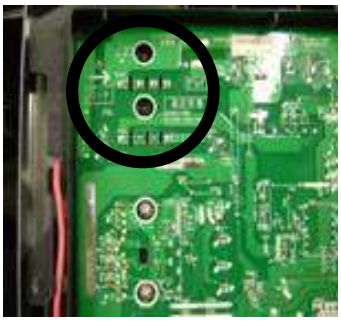
IPM BOARD ON A 5-BOARD SETUP.



MULTI-ZONE, LARGE CASSETTE RGLX, & UNIVERSAL MODEL

42RLX, LARGE CASSETTE

MAIN CONTROL BOARD, SINGLE BOARD



NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

Indoor Fan Motor Resistance

	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU7RLF ASU9RL ASU9RLF ASU12RL ASU12RLF ASU15RLS Motor MFD-12YYAN	300K–OL	30K–120K	225K–260K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU9RLQ ASU9RMLQ ASU12RLQ ASU12RMLQ ASU15RLQ ASU18RLQ ASU18CL ASU18RL ASU18RMLQ Motor MFD-34ROM_black (MFD-34ROAN_white)	300K-OL	1K-2K (40K-60K)	90K-120K (140K-160K)	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU18RLF ASU18RLXS ASU18RLB ASU24RLB ASU24CL ASU24CL1 ASU24RL ASU24RLF ASU24RLQ ASURLXQ ASU24RLXS ASU30CLX ASU30CLX1 ASU30RLX ASU30RLXB ASU30RLXQ ASU36CLX Motor MFD-50RON	300K–OL	40K–60K	140K-160K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU9R2 ASU9RQ ASU9CQ ASU12R2 ASU12RQ ASU12CQ Motor MFD-12POM	300K-OL	25K-50K	280K-320K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	BR-Blk
AUU7RLF AUU9RML AUU9RLF AUU12RML AUU12RLF AUU18RML AUU18RLF Motor MFF-24VVL	300K-OL	80K-100K	80K-110K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU7RLF1 ASU9RLF1 ASU12RLF1 Motor MFD-12CYAN	OL	110K-140K	260K-310K	OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU9RLS3 ASU12RLS3 ASU15RLS3 Motor MFD-W60XA2F	2M-3M	30K-50K	100K-105K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AGU9RLF AGU12RLF AGU15RLF Motor MFD-14SXAN_upper (MFD-14TXAN_lower)	O/L	30K-35K	155K-160K	OL

Model	Red-Black	White-Black	Yellow-Black	Brown-Black
ASU36RLXB ASU36CLX1 Motor MFD-71TXAN	OL	40K-60K	140K-170K	OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ASU9RLS2 ASU12RLS2 ASU15RLS2 Motor MFD-12TYL	300K-OL	100K-125K	240K-265K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	BR-Blk
ARU9,12RLF Motor MFG-14WV	300K-OL	20K-50K	80K-110K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
ARU18RLF ARU24RLF Motor MFG24WV	300K-OL	25K-55K	70K-100K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	BR-Blk
ASU9RL2 ASU12RL2 Motor MFD-12CWN	300K-OL	100K-125K	240K-265K	Mega Ohms-OL

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

Checking Outdoor DCV Fan Motors

Examples of fan motor error codes on most models:
5x Operation & 6x Timer / 6x Operation & 2x Timer / 6x Operation & 3x Timer / 9x Operation & 7x Timer / 5x Operation & 1x Timer / 6x Operation & continuous Timer blink / Continuous Operation blink & 14x Timer / E:973 / 15x LED 1 (condenser) / 16x LED 1 / E:1b (wired remote) / E:51 (wired remote) / E:97 (wired remote) / E:12 (wired remote)

- When checking **ohms,** the system power MUST be powered off. Wait 4 to 5 min wait for discharge
- Always ohm fan motor when replacing a main control board.
- Unplug fan motor from control board and spin fan blade by hand to check for any resistance,
  It should turn/spin freely, forward and backward. (if propeller does not spin freely, motor is seized, replace motor
- When performing ohm readings place your meter in auto ranging in Mega ohms
- Unplug fan motor and place black lead of meter on dc ground per systems service manual.
- Red lead of meter will go to the other fan leads one at a time. (per fan motor ohm readings)

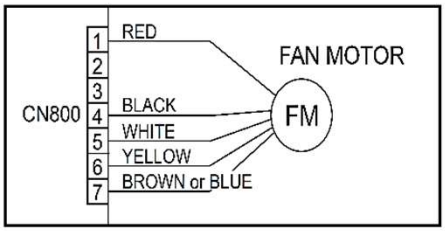
- Use caution when checking DC volts for fan motors.
- Check the 3.15-amp fuse on the control board with a continuity test. (If fuse is open replace control board/fan motor.)
- When checking dcv for fan motor to determine if board is the problem or fan motor is the problem

Ex. Wiring Schematic

Check Point 4 : Check Output Voltage of Main PCB

- Check outdoor unit circuit diagram and the voltage.
  (Measure at Main PCB side connector)

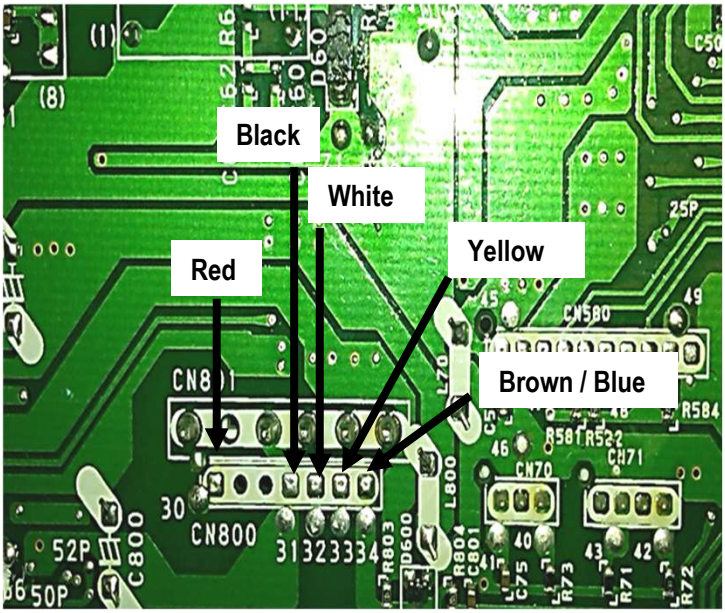
DC



Read wire	DC voltage
Red - Black	290V (AC115V-10%)~ 360V (AC115+10%)
White - Black	15±1.5V

▶ **If the voltage is not correct, replace Main PCB.**

Ex. PCB Testing Points



NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

Outdoor Fan Motor Resistance

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOU09LMAS1 AOU12LMAS1 **Motor:MDF-U25UA3F**	OL	90k	103k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUG09LZAS1 AOUG09LZAH1 AOUG12LZAS1 AOUG12LZAH1 AOUG15LZAS1 AOUG15LZAH1 **Motor MFE-S60VD2F**	OL	95k	88k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUH09LUAS1 AOUH09LMAH1 AOUH12LMAH1 **Motor: MFE-W25VA2F**	OL	60k-70k	80k-100k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUH12LUAS1 AOUH18LUAS1 **Motor: MFE-S60VD2F**	OL	60k-70k	80k-100k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUH24LMAS1 **Motor:MFE-PA0VB3F** **FGA**	OL	100k	140k	OL

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Outdoor Fan Motor Resistance

Service Tips

Model	Red-Black	White-Black	Yellow-Black	Brown-Black
Motor MFE-71TVAL AOU9RLFC AOU9RLFF AOU9RLFFH AOU9RLS AOU9RLS2 AOU9RLS2H AOU9RLS3 AOU9RLS3H AOU12RLFC AOU12RLFF AOU12RLFFH AOU12RLS AOU12RLS2 AOU12RLS2H AOU12RLS3 AOU12RLS3H AOU15RLS AOU24CL1	300K–OL	110K–130K	70K–90K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Brown-Black
AOU15RLFF AOU15RLFFH AOU15RLS2 AOU15RLS2H AOU15RLS3 AOU15RLS3H AOU18RLB AOU18RLFC AOU24RLB **Motor MFE-71TVL**	300K–OL	110K–130K	75K-100K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Brown-Black
Motor MFE-60TVT AOU18RLXFW AOU18RLXFWH AOU18RLXFW1 AOU18RLXFZ AOU18RLXS AOU24RLXFW AOU24FLXFWH AOU24RLXFW1 AOU24RLXFZ AOU24RLXS AOU30CLX1 AOU30RLX AOU30RLXB AOU36CLX1 AOU36RLXB	300K-OL	45K-55K	120K-140K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue/Black
AOU15RLQ AOU18CL AOU18RL AOU18RLQ **Motor MFE-18ROM**	300K-OL	1K-2K	190K-210K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU9CQ AOU9R2 AOU9RQ AOU12CQ AOU12R2 AOU12RQ **Motor MFE-12POM**	300K-OL	1K-2K	190K-210K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU18RLX AOU18RLXFZH AOU24RLX AOU24RLXFZH AOU24RLXQ AOU24RML AOU24RML1 AOU30CLX AOU30RLXQ AOU30RLXEH AOU36CLX AOU36RLX AOU36RLXFZ AOU36RLXFZ1 AOU36RML AOU36RML1 AOU42RLX	300K-OL	40K-100K	120K-140K (190K-210K)	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Brown-Black
AOU24CL AOU24RL AOU24RLQ **Motor MFE-24ROM**	300K-OL	1K-2K	190K-210K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Brown-Black
AOU9RLFW **Motor MFE-28TVAL**	300K-OL	120K-150K	80K-100K	Mega Ohms-OL
AOU12RLFW **Motor MFE-40WL**	300K-OL	30K-45K	80K-100K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU9RL **Motor MFE-12TVBM**	300K-OL	1K-2K	190k-210K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU9RLQ AOU12RLQ Motor MFE-12ROAM	300K-OL	1K-2K	190k-210K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU9, 12RL2 **Motor MFE-22AVL**	300K-OL	115K-145K	75K-100K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU48RLXFZ AOU48RLXFZ1 Motor MFE-45WVN	300K-OL	40K-60K	125K-150K	Mega Ohms-OL

Model	Red-Black	White-Black	Yellow-Black	Blue-Black
AOU36RLXFZH AOU45RLXFZ **MFE-ZA2VA2N**	300K-OL	120K-145K	75K-100K	Mega Ohms-OL

Motor MFE-45VVT_White (MFE-45ROM_Black)

FUJITSU

Service Tips

Outdoor Fan Motor Resistance

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOU09LMAS1 AOU12LMAS1 **Motor:MDF-U25UA3F**	OL	90k	103k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUG09LZAS1 AOUG09LZAH1 AOUG12LZAS1 AOUG12LZAH1 AOUG15LZAS1 AOUG15LZAH1 **Motor MFE-S60VD2F**	OL	95k	88k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUH09LUAS1 AOUH09LMAH1 AOUH12LMAH1 **Motor: MFE-W25VA2F**	OL	60k-70k	80k-100k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUH12LUAS1 AOUH18LUAS1 **Motor: MFE-S60VD2F**	OL	60k-70k	80k-100k	OL

Model	Red-Black	White-Black	Yellow-Black	BL/BR-Black
AOUH24LMAS1 **Motor:MFE-PA0VB3F** **FGA**	OL	100k	140k	OL

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

Static Pressure Adjustment

Depending on the installation including duct length, filter sizes and type, grille and register selections etc., the static pressure setting may need to be adjusted. The static pressure capability of the unit fan can be adjusted with the wired remote by using the function setting procedure (BELOW). Use the installation instructions to get into the function setting mode on the wired remote. set the static pressure to the required calculated value.

NOTE: LOAD CALCULATIONS AND DUCT CALCULATIONS MUST BE PERFORMED IN ORDER TO SET THE CORRECT STATIC ADJUSTMENTS

Setting Description	Function Number	Setting Value
0 in. WG (0 Pa)	26	00
0.04 in. WG (10 Pa)		01
0.08 in. WG (20 Pa)		02
0.12 in. WG (30 Pa)		03
0.16 in. WG (40 Pa)		04
0.20 in. WG (50 Pa)		05
0.24 in. WG (60 Pa)		06
0.28 in. WG (70 Pa)		07
0.32 in. WG (80 Pa)		08
0.36 in. WG (90 Pa)		09
* 0.1 in. WG (25 Pa) (Standard)		**31***

*Factory Setting

The setting should equal the external static pressure required based on the duct system design at the desired CFM.

ACCA APPROVED DUCT CALCULATIONS ARE REQUIRED TO PERFORM THESE SETTINGS CORRECTLY

See Design and Technical Manual for (INDOOR FAN SPECIFICATIONS).

All units come from factory set at 0.1 in. WG. The static pressure can be set up to 0.2 in. WG on the 24K. 0.36 in. WG on the 7K, 9K,12K,18K. See chart below.

Range of static pressure is different from one model to another.

Model Name	Range of Static Pressure
ADUH07-09LUAS1/ARURLF	0 to 0.36 in. WG (0 to 90Pa)
ADUH12LUAS1/ARURLF	
ADUH18LUAS1/ARURLF	
ADUH24LUAS1/ARURLF	0 to 0.2 in. WG (0 to 50 Pa)

Please make sure that MAIN power is turned off to the entire system for 3- 5 minutes after the function settings are complete

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

Incorrect Wiring

Fujitsu Indoor and outdoor units communicate via terminals 2 & 3. While terminals 1 & 2 is the AC input, terminal 2 also carries data between the indoor and outdoor unit (Fig.1). A common mis-wiring mistake done in the field will make the system go into an error lockout mode, and perhaps the most common error is the crossed connection between terminals 1 & 2 (Fig.2).

(Serial Communication Error Code)

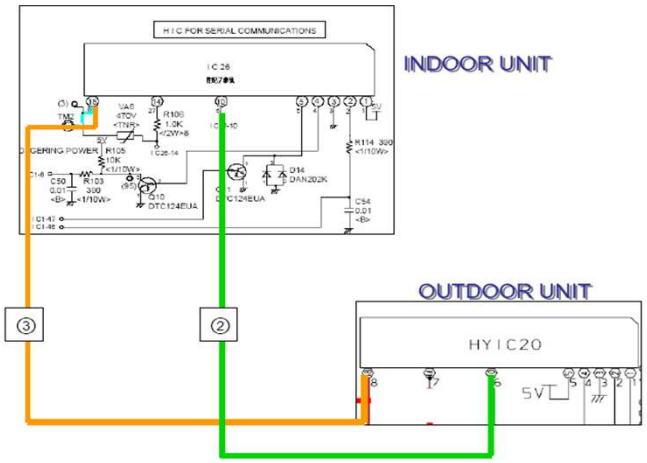


Fig. 1

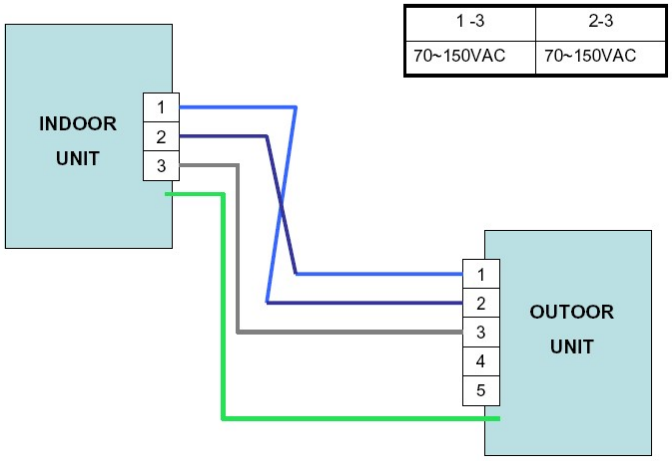


Fig. 2

If an error code, Indoor LED lights blink-1X operation 1X timer Continuous economy or E:11 wired controllers shown upon installation of the system, you may suspect terminals 1 & 2 being crossed. How to determine if this is the problem?

There are two simple checks

1) Checking AC Volts
2) Checking continuity.

If voltage range between 1-3 is the similar as 2-3 as shown on Fig .1 (70~150VAC), the probability of these two wires being crossed is great, after cutting power to the system you can confirm it with a simple continuity test.

NOTE: Visual inspection of the outdoor Field wiring color code sequence on terminal block 1 to 3 MUST match indoor Field wiring terminal block 1 to 3 with identical color code sequence.

1 To 1
2 to 2
3 to 3

Same color code sequence from indoor to outdoor field terminal blocks

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

FUJITSU

Service Tips

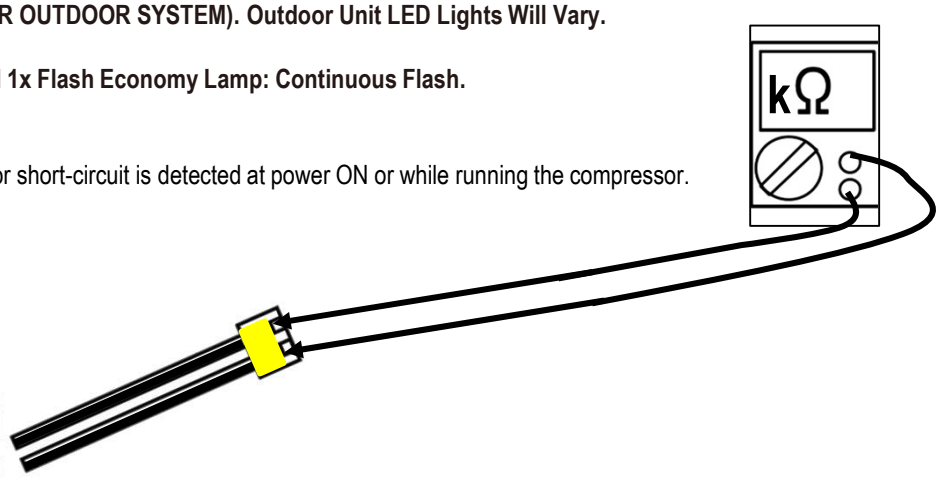
Discharge Thermistor Error

Error Code : (VERIFY OUTDOOR UNIT ERROR CODE LIST PER OUTDOOR SYSTEM). Outdoor Unit LED Lights Will Vary.

- **Indoor Unit Led Lights- Operation Led 7x Flash: Timer Led 1x Flash Economy Lamp: Continuous Flash.**
- **Wired Remote Control Error Code : [E : 71]**

Symptoms-When Discharge Pipe Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

- Check-Discharge Pipe Temperature Thermistor
- Outdoor Unit Main PCB Circuit



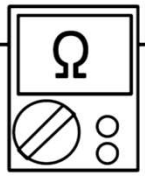
Take resistance reading according to chart below

Symptom:
When Discharge Pipe Temperature Thermistor open or short-circuit is detected at power ON or while running the compressor.

Check:
Outdoor Unit Main PCB Circuit
Discharge Pipe Temperature Thermistor

Thermistor Characteristics Chart

Check Point 2 : Remove connector and check Thermistor resistance value



Thermistor Characteristics (Approx. value)

Temperature(°F)	32°F	41°F	50°F	59°F	68°F	86°F	104°F	122°F	140°F
Resistance Value (kΩ)	167.12	128.77	100.14	78.56	62.14	39.79	26.22	17.73	12.27

Temperature(°F)	158°F	176°F	194°F	212°F	248°F
Resistance Value (kΩ)	8.68	6.26	4.60	3.43	2.00

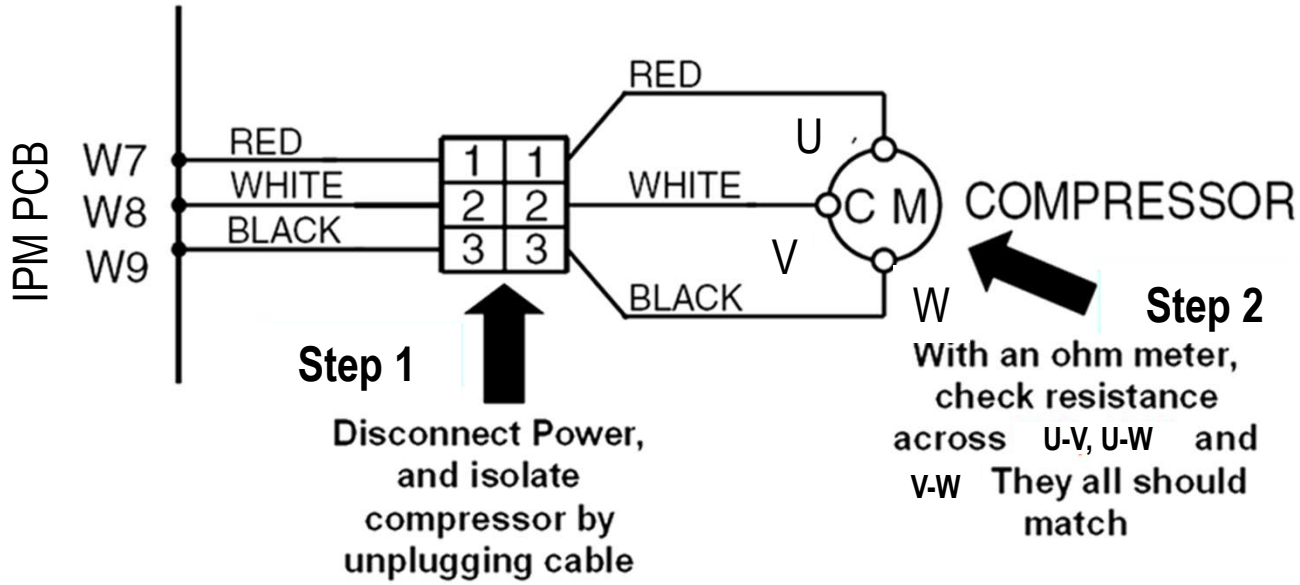
▶ **If Thermistor is either open or shorted, replace it and reset the power.**

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

Checking an Inverter Compressor

Inverter DC Compressors differ from the AC type. While resistance across the Start, Run and Common terminals of AC compressors are not the same, DC type compressors terminal resistances are.

Terminals on a DC type compressor are labeled U, V and W as opposed to Common, Start and Run. Resistance is the same across of any two terminal of the compressor (U-V,V-W or W-U). Although resistance may be the same, it will vary according to the compressor temperature. Below is a simple way to test if a compressor is open or shorted.

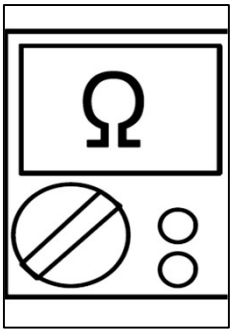


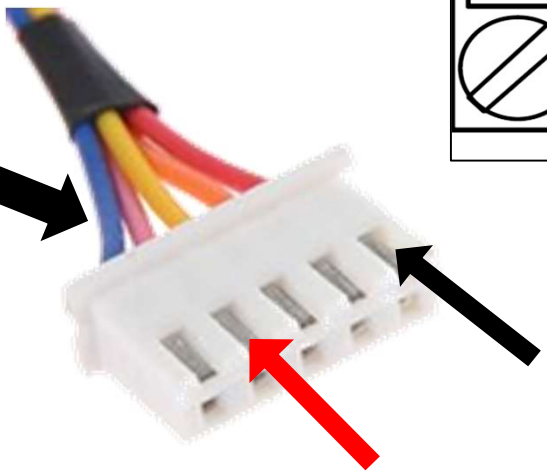
RESISTANCE VALUE WILL VARY DEPENDING ON THE TEMPERATURE OF THE COMPRESSOR

NOTE: In order to perform electrical testing or work on refrigeration systems, experience and or a refrigerant license are required. We strongly advise checking the Equipment Service manuals for more detailed explanations. If you are not sure about following these instructions, please contact Fujitsu Service at 866-952-8324

Louver Motor Testing

To complete this check, shut off main power, unplug stepper motor from indoor board, place your meter in the correct ohms Ω scale, able to read 225-325 ohms Ω **(AUTO RANGE)**
Place your black meter lead on the RED wire and your red (+) lead to each wire and you should read the same values on all wires.





Ohms Ω Readings

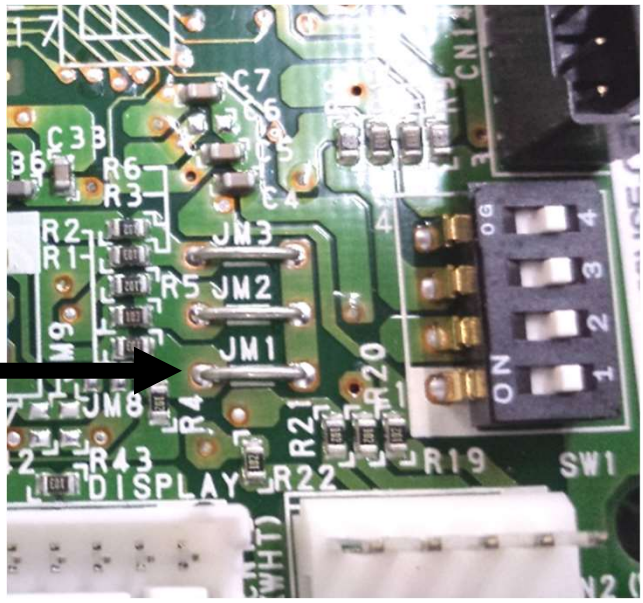
225-325 Ohms Ω

(All Fujitsu Stepper Motors)

If you read open or shorted on any of the wires or out of the range listed, replace the stepper motor.

Vertical Installation Slim Ducted ARU Units

When system is installed vertical the ***JM1*** jumper on the control board must be cut to disable the condensate pump



Be sure to move the drain cap and use the gravity drain. Use the drain hose and clamps that comes with the unit.

NOTE: Do not use glue at the outlet of the drain adaptor

When installing Slim Duct ARU units in the vertical positions it is recommended to perform the following functions settings for proper operation

- Static Pressure -MANDATORY
- Cooling Room temperature Correction- OPTIONAL
- Heating Room Temperature Correction-OPTIONAL

*Please refer to installation manual for full installation instructions and function settings.