



MITSUBISHI HEAVY INDUSTRIES
AIR-CONDITIONERS AUSTRALIA, PTY. LTD.

SERVICE SUPPORT HANDBOOK

www.mhiaa.com.au

Hyper ***Inverter***

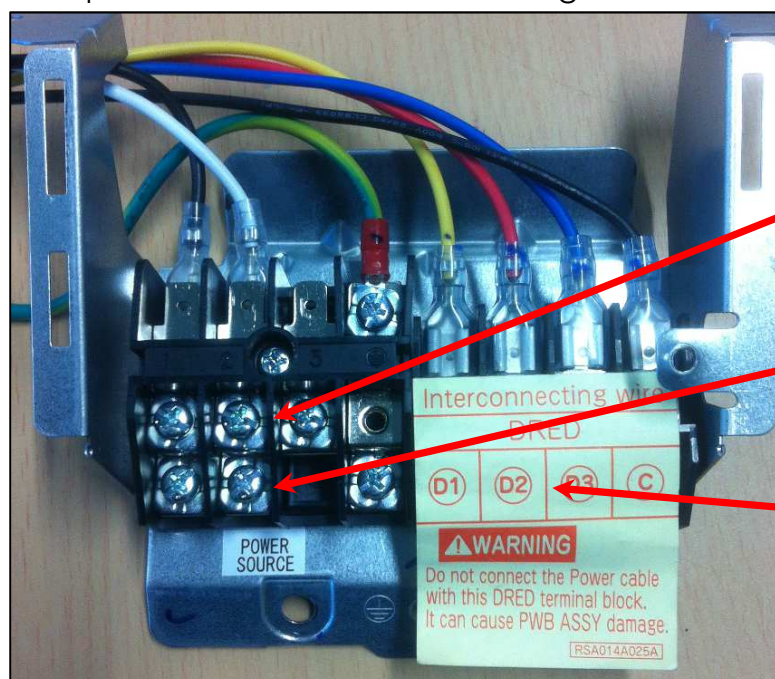
⚠ WARNING

The information contained within this 'Service Support Handbook' is for the use by qualified licenced personnel only. Additionally, the information presented here is not a replacement or substitute to the Manufacturers Technical Manual literature.

Please do not remove any covers, or attempt any repair or measurement on any MHI LTD. product, unless you are suitably qualified and licenced to do so.

Note that the SRC--ZMA-S, SRC--ZMXA-S, DXC--ZMA-S and FDCA---VNX (VSX) (VSA) series are DRED (AS4755) compliant. This means that the outdoor unit has 4 extra terminals as per example indicated below. Please only connect a DRED specified relay to these terminals if and where applicable. They are not to be connected to the indoor unit. The outdoor unit to indoor unit interconnecting terminal block is to the left/top on RAC products and a separate terminal block on PAC products.

RAC products – Terminal block wiring connections



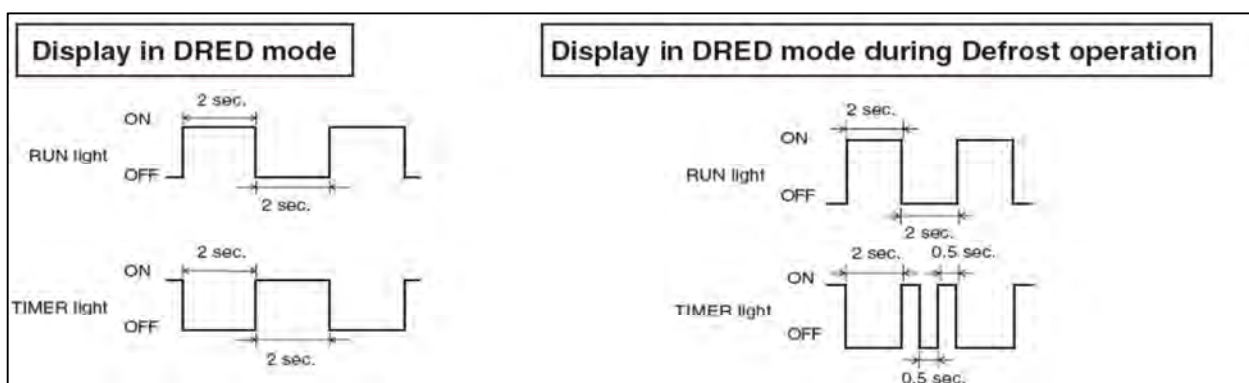
Interconnecting wiring to indoor unit [1 2 3 E]

Power supply [A N E]

DRED terminals [D1 D2 D3 C]

RAC Products

Display pattern of the indoor unit run and timer light during an external DRM input

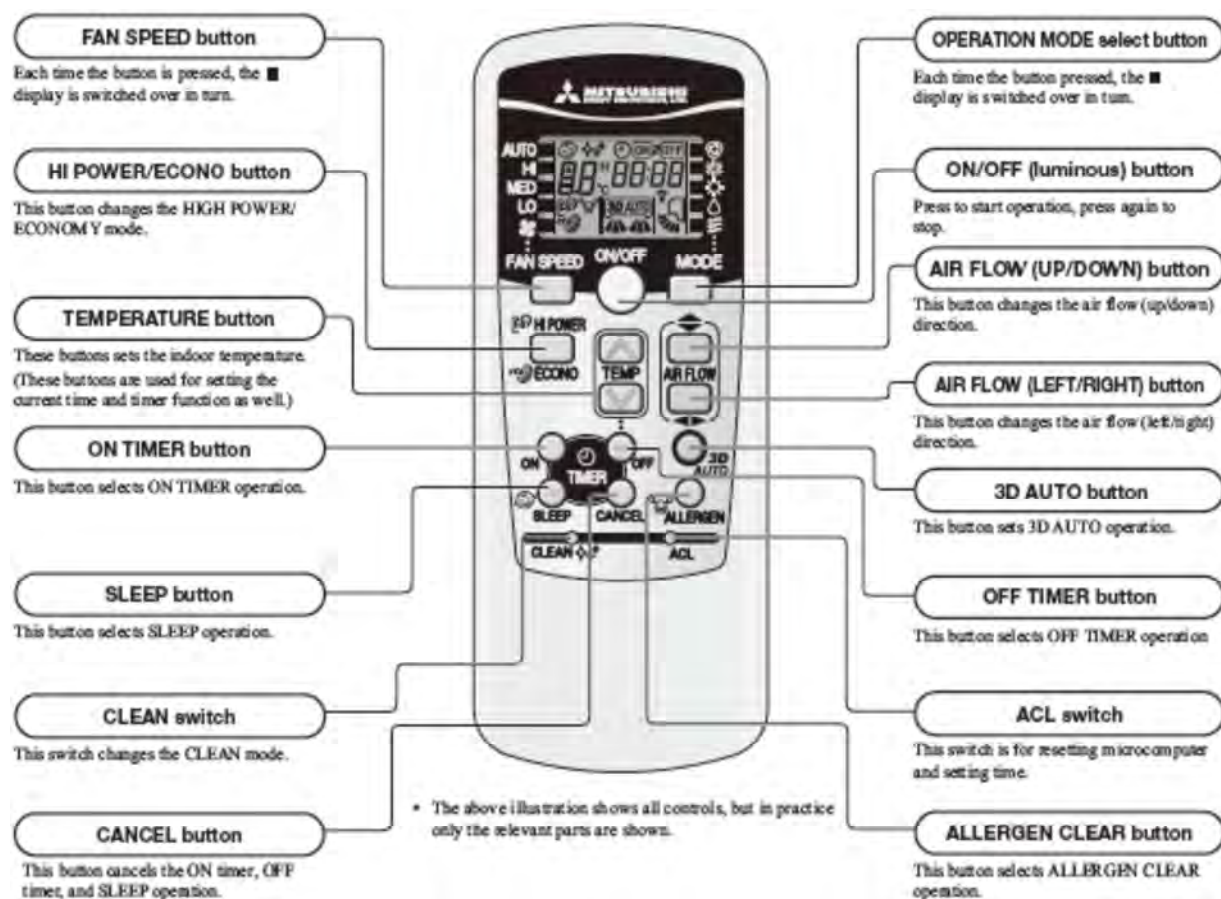


Hi-Wall Mounted Split Systems - Remote Controls of SRK & DXK

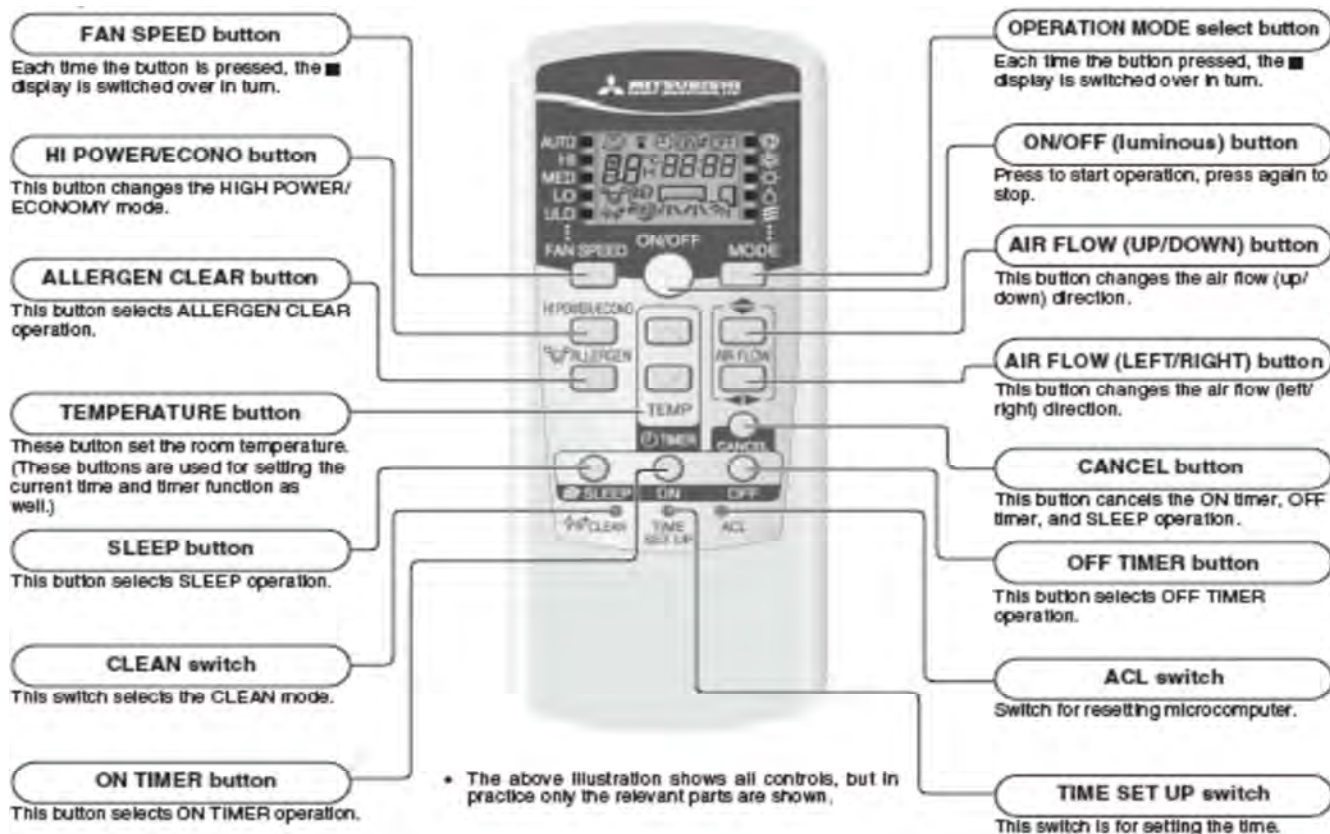
Before Proceeding to RAC Self Diagnosis Information, ensure the correct Remote Control is being used.

Indoor Model	Remote Control	Indoor Model	Remote Control
SRK--ZAA	RKS502A503	SRK--YJ-S, SRK--YL-S	RKX502A001
SRK--ZD-S, SRK--ZDX-S	RMA502A001	SRK24YMA-S	RLA502A700D
SRK--ZEA-S, SRK--ZEA-S1	RKW502A200		
SRK--ZFX-S, SRK--ZGX-S	RKW502A200B		
SRK--ZHX-S, ZIX-S, ZJX-S, ZJX-S1	RKX502A001C		
SRK--ZG-S	RKX502A001C		
SRK--ZJ-S, SRK--ZJ-S1	RKX502A001C	DXK--ZJ-S	RKX502A001C
SRK--ZK-S, SRK--ZL-S	RKW502A200	DXK--Z4-S, DXK--ZL-S	RKW502A200
SRK--ZMA-S, SRK--ZMXA-S	RLA502A700B	DXK--ZM-S, ZMA-S, ZMXA-S	RLA502A700B
SRF--ZMXA-S	RLA502A700C		
SRK--ZMP-S	RKX502A001P	DXK--Z3-S, DXK--Z5-S	RKX502A001P

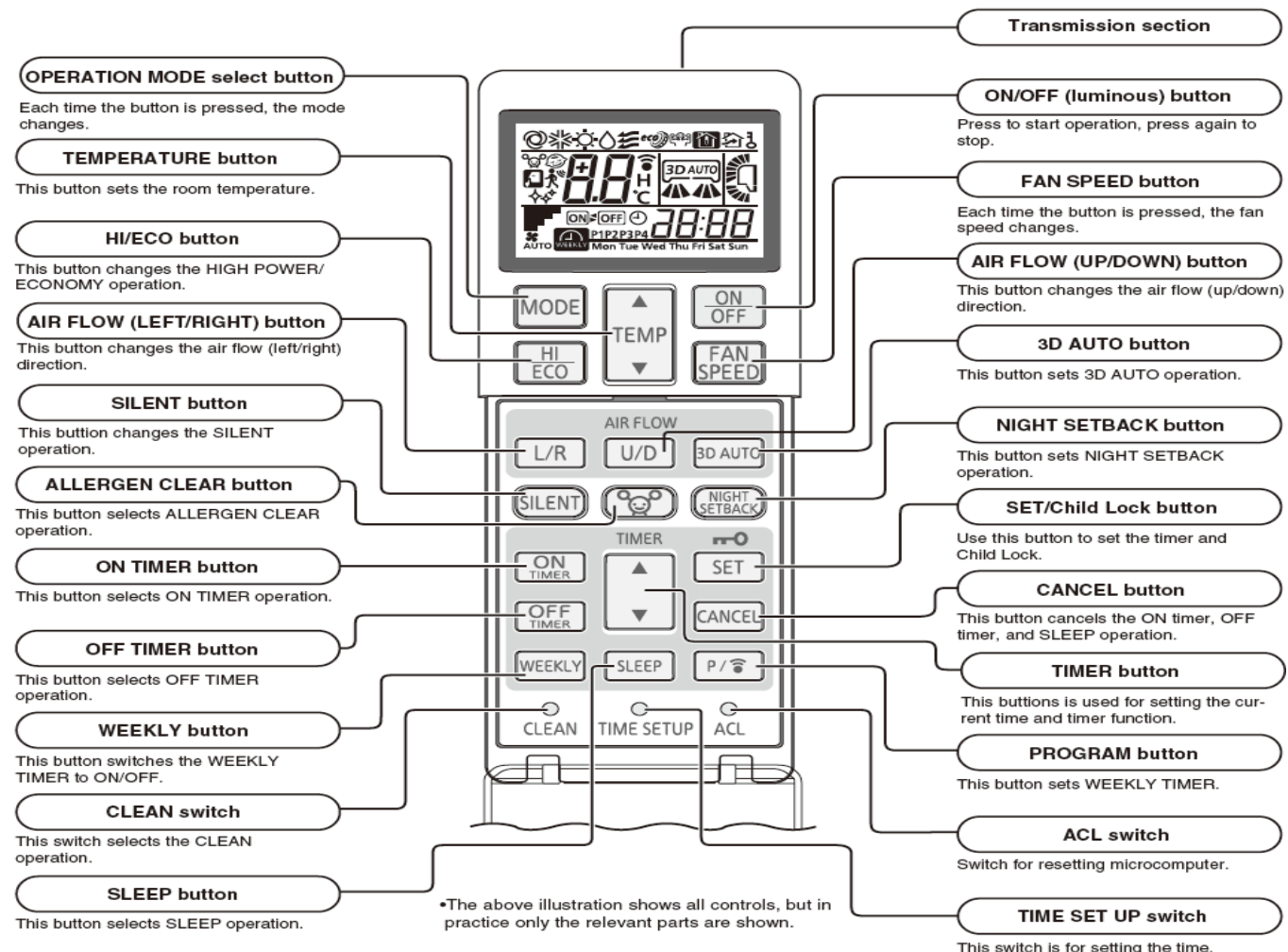
RKX502A001C



RKW502A200



RLA502A700B



Refrigerant Piping Information

RAC – Current Models

Model	Precharged Piping Length (m)	Max Piping Length (m)	Vertical Pipe Length (m)		Factory Charge (Kg)	Additional Charge (gr per m)	Pipe Sizes (mm)	
			O/D Above	I/D Above			Liquid Pipe	Gas Pipe
DXC05Z5-S, DXC06Z5-S	10	15	10	10	0.655	20	6.35	9.52
DXC06ZM-S	15	15	10	10	0.75	N/A	6.35	9.52
SRC17ZMP-S, 20ZMP-S	10	15	10	10	0.655	20	6.35	9.52
SRC20ZMA-S	15	15	10	10	0.75	N/A	6.35	9.52
SRC25_35 ZMA-S DXC09_12ZMA-S	15	15	10	10	1.15	N/A	6.35	9.52
SRC50ZMA-S DXC18ZMA-S	15	25	15	15	1.35	20	6.35	12.7
SRC63_71ZMA-S DXC21_24ZMA-S	15	30	20	20	1.8	25	6.35	15.88
SRC80ZMA-S DXC28ZMA-S	15	30	20	20	2.2	25	6.35	15.88
SRC92ZMA-S DXC32ZMA-S	15	30	20	20	3.15	25	6.35	15.88
SRC20_25_35ZMXA-S	15	15	10	10	1.2	N/A	6.35	9.52
SRC50ZMXA-S SRC60ZMXA-S	15	30	20	20	1.5	20	6.35	12.7
SRC10YL-S	10	15	10	10	0.75	20	6.35	9.52
SRC13YL-S	15	15	10	10	1.05	N/A	6.35	9.52
SRC18YL-S	15	25	15	15	1.35	20	6.35	12.7
SRC24YMA-S	15	30	20	20	1.8	25	6.35	15.88
SCM Multi Head Series		For all Rooms	For SCM Products, the maximum one way piping length is 25 metres					
SCM40ZM-S	30	30	15	15	2.0	N/A	6.35	9.52
SCM50_60ZM-S	40	40	15	15	2.5	N/A	6.35	9.52
SCM71_80ZM-S	40	70	20	20	3.15	20	6.35	9.52
SCM100_125ZM-S	50	90	20	20	6.0	20	6.35	9.52

PAC – Current Models

Model	Pre-Charged Piping Length (m)	Max Piping Length (m)	Vertical Pipe Length (m)		Factory Charge (Kg)	Additional Charge (gr per m)	Pipe Sizes (mm)	
			O/D Above	I/D Above			Liquid Pipe	Gas Pipe
FDCA71VNX DXCA24VNX	30	50	30	15	2.95	60	9.52	15.88
FDCA100VN	30	50	30	15	3.8	60	9.52	15.88
FDCA125VNX FDCA140VNX DXCA34VNX DXCA43VNX DXCA48VNX FDCA140VSX	30	100	30	15	4.5	60	9.52	15.88
DXCA55VSA FDCA160VSA FDCA200VSA	30	35	30	15	7.2	120	12.7	22.22
	30	70	30	15	7.2	120	12.7	25.4 / 28.58

Refrigerant Piping Information

Historical Models

Model	Pre-charged Piping Length (m)	Max Piping Length (m)	Vertical Pipe Length (m)		Factory Charge (Kg)	Additional Charge (gr per m)	Pipe Size (mm)	
			O/D Above	I/D Above			Liquid Pipe	Gas Pipe
DXC09Z3-S	10	15	10	10	0.75	20	6.35	9.52
DXC12Z3-S	15	15	10	10	1.05	N/A	6.35	9.52
DXC09,12ZJ-S	15	15	10	10	1.15	N/A	6.35	9.52
DXC18Z3-S, ZJ-S	15	25	15	15	1.35	20	6.35	12.7
DXC21,24,28Z4-S	15	30	20	20	1.8	25	6.35	15.88
DXC28ZL-S	15	30	20	20	2.2	25	6.35	15.88
DXC32ZL-S	15	30	20	20	3.15	25	6.35	15.88
DXC24VNX	30	50	30	15	2.95	60	9.52	15.88
DXC34,43,48VNX	30	100	30	15	4.5	60	9.52	15.88
DXC55VS	30	70	30	15	7.2	120	12.7	22.22
SRC10YJ-S	10	15	10	10	0.75	20	6.35	9.52
SRC13YJ-S	15	15	10	10	1.05	N/A	6.35	9.52
SRC18YJ-S	15	25	15	15	1.35	20	6.35	12.7
SRC20,25,ZD,ZF,ZG	15	15	10	10	0.9	N/A	6.35	9.52
SRC20,25 ZJ-S	15	15	10	10	0.75	N/A	6.35	9.52
SRC35ZD, ZG	15	15	10	10	1.1	N/A	6.35	9.52
SRC35ZJ-S	15	15	10	10	1.05	N/A	6.35	9.52
SRC20ZJ-S1	15	15	10	10	0.75	N/A	6.35	9.52
SRC25,35ZJ-S1	15	15	10	10	1.15	N/A	6.35	9.52
SRC50ZD,ZJ-S,ZJ-S1	15	25	15	15	1.35	20	6.35	12.7
SRC20,25,35ZDX,ZFX, ZGX,ZIX, ZJX-S,ZJX-S1	15	15	10	10	1.2	N/A	6.35	9.52
SRC50,60ZFX,ZGX,ZHX, ZIX	15	30	20	20	1.4	20	6.35	12.7
SRC50,60ZJX-S	15	30	20	20	1.5	20	6.35	12.7
SRC63,71,80ZEA-S,S1,S2	15	30	20	20	1.9	25	6.35	15.88
SRC63,71,80,ZK-S	15	30	20	20	1.8	25	6.35	15.88
SRC80ZL-S	15	30	20	20	2.2	25	6.35	15.88
SRC92ZL-S	15	30	20	20	3.15	25	6.35	15.88
SCM40ZG-S	30	30	15	15	1.4	N/A	6.35	9.52
SCM45ZG-S	20	30	15	15	1.6	20	6.35	9.52
SCM48ZG-S	40	40	15	15	1.95	N/A	6.35	9.52
SCM60ZG-S	30	40	15	15	2.2	20	6.35	9.52
SCM80ZG-S	40	70	20	20	3.15	20	6.35	9.52
SCM40ZJ-S	30	30	15	15	2	N/A	6.35	9.52
SCM50,60ZJ-S,S1	40	40	15	15	2.5	N/A	6.35	9.52
SCM71,80ZJ-S,S1	40	70	20	20	3.15	20	6.35	9.52
SCM100,125ZJ-S,S1	50	90	20	20	6	20	6.35	9.52
FDCVA151,201HEN	30	40	30	15	1.55	20	6.35	12.7
FDCVA251HEN	30	40	30	15	1.75	20	6.35	15.88
FDCVA302HENR,AR	30	50	30	15	2.95	60	9.52	15.88
FDCVA402,502, 602HENR,AR	30	50	30	15	3.8	60	9.52	15.88

RAC SELF-DIAGNOSIS INFORMATION					
Inverter RAC Indoor Unit		SRK	ZD, ZF, ZG, ZJ, ZJ-S1,ZMA,ZDX, ZFX, ZGX, ZHX, ZIX, ZJX, ZJX-S1,ZMXA, ZEA, ZE-S1, S2, ZK, ZL. YJ, YL		
		SRF	ZIX, ZJX, ZJX-S1,ZMXA		
		DXK	Z3, Z4, ZJ, ZL,ZMA		
Inverter RAC Outdoor Unit		SRC	ZD, ZF, ZG, ZJ, ZJ-S1,ZMA,ZDX, ZFX, ZGX, ZHX, ZIX, ZJX, ZJX-S1,ZMXA, ZEA, ZE-S1, S2, ZK, ZL YJ, YL		
		DXC	Z3, Z4, ZJ, ZL,ZMA		
Indoor Unit Display		Outdoor Control PCB, Red LED	Wired R/C	Description of Trouble	Possible Cause
Run Light	Timer Light				
ON	1	1	E42	Current Cut	Compressor locking, open phase on compressor output, short circuit on power transistor, closed service valve, EEV not opening
ON	2	2	E59	Trouble of outdoor unit	Broken compressor wire, broken power transistor, broken discharge sensor wire/poor connection, compressor blockage
ON	3	3	E58	Current safe stop	Overload protection, over charged, compressor locking
ON	4	1	E51	Power Transistor error	Faulty power transistor
ON	5	5	E36	Over heat of compressor	Low on gas, faulty discharge pipe sensor, closed service valve
ON	6	6	E3, E5	Error of signal transmission	Defective power supply, broken signal wire, faulty indoor/outdoor P.C.B.
ON	7	ON	E48	Faulty outdoor fan motor	Faulty condenser fan motor, poor connection
ON	Flashing	2	E35	Cooling High Pressure Protection	Overload protection, over charged, broken outdoor heat exchanger sensor wire, closed service valve
1	ON	-	-	Heat exchanger sensor (1) error	Broken heat exchanger sensor (1) wire, poor connection
2	ON	-	E7	Room temperature sensor	Broken room temperature sensor wire, poor connection
3	ON	-	-	Heat exchanger sensor (2) error	Broken heat exchanger sensor (2) wire, poor connection
4	ON	-	E9	Drain Fault	Float switch activated, faulty pump, faulty PCB, faulty float switch
5	ON	2	E47	Active Filter voltage error	Defective Active Filter, incorrect power supply
6	ON	-	E16	Indoor fan motor error	Fault indoor fan motor, poor connection
7	ON	2	E57	Refrigeration system protective control	Service valve closed, refrigerant insufficient
7	1	4	E40	Service valve (gas side) closed, defective outdoor PCB	Output current of inverter exceeds specification
Flashing	1	8	E38	Outdoor air temp sensor	Broken sensor wire, poor connection
Flashing	2	8	E37	Outdoor heat exchanger sensor	Broken sensor wire, poor connection
Flashing	4	8	E39	Discharge pipe sensor	Broken sensor wire, poor connection
2	2	7	E60	Rotor lock	Faulty compressor, open phase on compressor, faulty outdoor P.C.B.
-	-	-	E1	Error of wired remote	Broken wire, faulty indoor P.C.B., faulty controller.
OFF	Flashing	-	E21	Limit Switch error	Defective limit switch, air inlet panel set, I/D control PCB

MULTI HEAD SELF-DIAGNOSIS INFORMATION – Historic Model					
Inverter Multi Indoor		SKM	ZD, ZF, ZG		
		SRRM	ZE, ZF		
		STM	ZE, ZF		
Inverter Multi Outdoor		SCM	ZD-S, ZF-S, ZG-S		
Indoor Display		Outdoor main PCB, Red LED	Wired R/C	Description of Trouble	Possible Cause
Run Light	Timer Light				
ON	1	1	E42	Current Cut	Compressor locking, open phase on compressor output, short circuit on power transistor, closed service valve
ON	2	2	E59	Trouble of outdoor unit	Broken compressor wire, broken power transistor, broken discharge sensor wire or poor connection, compressor block age
ON	3	3	E58	Current safe stop	Overload protection, over charged, compressor locking
ON	4	4	E41	Power transistor error	Broken power transistor
ON	5	5	E36	Over heat of compressor	Low on gas, faulty discharge pipe sensor, closed service valve
ON	6	6	E5	Error or signal transmission	Defective power supply, broken signal wire, faulty indoor/outdoor P.C.B.
ON	7	ON	E48	Faulty outdoor fan motor	Faulty condenser fan motor, poor connection
1	ON	OFF	E6	Indoor heat exchanger sensor (1) error	Broken heat exchanger sensor (1) wire, poor connection
2	ON	OFF	E7	Room temperature sensor	Broken room temperature sensor wire, poor connection
4	ON	OFF	E9	Drain error	Blocked drain, faulty float switch, faulty drain pump
5	ON	OFF	E6	Indoor heat exchanger sensor (2) error	Broken heat exchanger sensor (2) wire, poor connection
6	ON	OFF	E16	Indoor fan motor error	Fault indoor fan motor, poor connection
7	ON	OFF	E6	Closed service valve, indoor heat exchanger sensor (1)	Closed service valve, indoor heat exchanger disconnected or open circuit
Flashing	1	Flashing	E38	Outdoor air temperature sensor	Broken sensor wire, poor connection
Flashing	2	Flashing	E37	Outdoor heat exchanger sensor	Broken sensor wire, poor connection
Flashing	4	4 sec on/off	E39	Discharge pipe sensor	Broken sensor wire, poor connection
Flashing	5	Flashing	E53	Compressor suction sensor	Broken sensor wire, poor connection
Flashing	6	Flashing	E41	Power transistor sensor error	Broken sensor wire, poor connection
2	2	7	E60	Rotor lock	Faulty compressor, open phase on compressor, faulty outdoor P.C.B.
-	-	-	E1	Error of wired remote	Broken wire, faulty indoor P.C.B., faulty controller.

MULTI HEAD SELF-DIAGNOSIS INFORMATION – Previous & Current Series					
Inverter Multi Indoor	SRK	ZJ-S,ZJ-S1,ZMA,ZMXA		ZJX-S, ZJX-S1	ZK-S
	SRR	ZJ-S			
	SRF	ZJX-S, ZJX-S1,ZMXA			
	FDTC	VD,VF, VF/1			
	FDUM	VF, VF/1			
	FDEN	VD, VF, VF/1			
Inverter Multi Outdoor	SCM	ZJ-S, ZJ-S1, ZM-S			
Indoor Unit Display		Outdoor main PCB, Red LED	Wired R/C	Description of Trouble	Possible Cause
Run Light	Timer Light				
ON	1	1	E42	Current Cut	Compressor locking, open phase on compressor output, short circuit on power transistor, closed service valve
ON	2	2	E59	Trouble of outdoor unit	Broken compressor wire, broken power transistor, broken discharge sensor wire or poor connection, compressor block age
ON	3	3	E58	Current safe stop	Overload protection, over charged, compressor locking
ON	4	1	E51	Power transistor error	faulty inverter PCB, faulty main PCB or faulty fan motor
ON	5	5	E36	Over heat of compressor	Low on gas, faulty discharge pipe sensor, closed service valve
ON	6	6	E5	Error or signal transmission	Defective power supply, broken signal wire, faulty indoor/outdoor P.C.B.
ON	7	Flashing	E48	Outdoor fan motor or main PCB	Faulty condenser fan motor or faulty main PCB
ON	Flashing	2	E35	Cooling High Pressure Protection	Overload protection, over charged, broken outdoor heat exchanger sensor wire, closed service valve
1	ON	OFF	-	Indoor heat exchanger sensor (1) error	Broken heat exchanger sensor (1) wire, poor connection
2	ON	OFF	-	Room temperature sensor	Broken room temperature sensor wire, poor connection
3	ON	OFF	-	Heat exchanger sensor 2 error	Broken heat exchanger sensor 3 wire, poor connection
4	ON	OFF	E9	Drain error	Blocked drain, faulty float switch, faulty drain pump
5	ON	2	E47	Active filter voltage error	Defective Active Filter, incorrect power supply
6	ON	OFF	E16	Indoor fan motor error	Faulty indoor fan motor, poor connection
7	ON	2	E57	Refrigerant cycle system protective control	Closed service valve, insufficient refrigerant
Keeps Flashing	1	8	E38	Outdoor air temperature sensor	Broken sensor wire, poor connection, faulty outdoor PCB
Keeps Flashing	2	8	E37	Outdoor heat exchanger sensor	Broken sensor wire, poor connection, faulty outdoor PCB
Keeps Flashing	4	8	E39	Discharge pipe sensor	Broken sensor wire, poor connection, faulty outdoor PCB
Keeps Flashing	5	8	E53	Outdoor suction sensor	Broken sensor wire, poor connection, faulty outdoor sub PCB
2	2	7	E60	Rotor lock	Faulty compressor, open phase on compressor, faulty outdoor P.C.B.
-	Keeps Flashing	-	E21	Limit switch error	Defective limit switch, air inlet panel set, I/D control PCB
-	-	-	E1	Error of wired remote	Broken wire, faulty indoor P.C.B., faulty controller.
-	-	2	E40	High pressure error	Faulty high pressure sensor, faulty control PCB, poor air circulation.
-	-	1	E41	Power transistor overheat	Faulty power transistor or sensor.
-	-	4	E45	Outdoor main or sub PCB communication error	Outdoor sub or main PCB faulty, poor connection of wires between outdoor PCBs
-	-	8	E54	High pressure sensor	Faulty high pressure sensor, faulty control PCB.

PAC SELF-DIAGNOSIS INFORMATION						
Inverter PAC Indoor	FDT	1, 1R, V, VD, VF, VF/1				
	FDTC	1, 1R, V, VD, VF, VF/1				
	FDU	1, 1R, V, VD,				
	FDUA	VF, VF/1, VG				
	FDUM	1, 1R, V, VD, VF, VF/1				
	FDEN	1, 1R, V, VD, VF, VF/1				
	DXU	VF, VF/1				
Error Code	Indoor PCB LEDs		Outdoor unit LEDs		Description of Fault	Possible Cause
	RED	GREEN (1)	RED	GREEN (1)		
No Error Code	Off	Flashing	Off	Flashing	-	Normal Operation
	Off	Off	2	Off	Indoor unit power supply	Power OFF, broken wire, blown fuse, broken transformer wire
	3	Flashing	Off	Flashing	Remote controller wires	Poor or wrong connection, broken wire
					Remote controller	Faulty Remote controller
"WAIT" or INSPECT I/U	Off	Flashing	2	Flashing	Communication error (indoor-outdoor)	Faulty interconnect wiring, faulty PCB
					Remote Controller	Improper setting of master and slave by Remote Controller
E1	Off	Flashing	Off	Flashing	Communication error (indoor-remote control)	Poor or wrong connection, broken wire, intrusion of noise, faulty indoor PCB or remote control
E5	2	Flashing	2	Flashing	Indoor - Outdoor communication fault	Poor connection, incorrect wiring, indoor or outdoor PCB
	2	Flashing	Off	Flashing	Electrical Noise	CPU Runaway on Outdoor control PCB
					Outdoor Control PCB	Faulty Outdoor Control PCB (Communication Circuit)
	2	Flashing	Off	Off	Outdoor Control PCB	Faulty Outdoor Control PCB or Power supply
E6	1	Flashing	Off	Flashing	Indoor heat exchanger temp sensor	Faulty sensor, poor connection, faulty indoor PCB
E7	1	Flashing	Off	Flashing	Indoor return air temp sensor	Faulty sensor, poor connection, faulty indoor PCB
E8	1	Flashing	Off	Flashing	Indoor heat exchanger temp sensor	Heating overload, faulty sensor, faulty indoor PCB
E9	1	Flashing	Off	Flashing	Float switch activated	Blocked drain, faulty pump, faulty indoor PCB, faulty float switch
E10	Off	Flashing	Off	Flashing	No. of indoor units connected	Too many units connected to 1 controller (MAX 16)
E14	3	Flashing	Off	Flashing	Remote controller Fault	No master assigned to slaves, incorrect wiring, broken wire between master & slave
E16	Off	Flashing	Off	Flashing	Indoor fan motor	Faulty Indoor fan motor, poor connection, faulty indoor PCB
E19	1	Flashing	Off	Flashing	Mode Setting	Incorrect mode setting
E20	1	Flashing	Off	Flashing	Indoor fan motor	Fan motor speed fault or faulty indoor Power PCB
E21	Off	Flashing	Off	Flashing	Limit Switch error	Defective limit switch, air inlet panel set, I/D control PCB
E28	Off	Flashing	Off	Flashing	Remote Controller temp sensor	Faulty Remote controller temp sensor

PAC SELF-DIAGNOSIS INFORMATION

PAC SELF-DIAGNOSIS INFORMATION							
Inverter PAC Outdoor		FDCVA	HEN, HENR, HENAR				
		FDC	VN, VS, VSA, VNX, VSX				
		DXC	VSA, VNX				
Error Code	Indoor PCB LEDs		Outdoor unit LEDs			Description of Fault	Possible Cause
	RED	GREEN (1)	RED	GREEN (1)	INV LED		
E33	Off	Flashing	1	Flashing	-	Power supply	Anomalous current on inverter primary side
E34	Off	Flashing	1	Flashing	Flashing	Power supply	Phase open circuit, faulty outdoor control PCB (3 Phase model)
E35	Off	Flashing	1	Flashing	Flashing	Outdoor heat exchanger thermistor	Overheat of condenser, faulty thermistor, faulty outdoor PCB
E36	Off	Flashing	1	Flashing	Flashing	Discharge pipe thermistor	High discharge temp, faulty sensor, faulty outdoor control PCB
E37	Off	Flashing	1	Flashing	Flashing	Outdoor heat exchanger thermistor	Poor connection, broken wire, faulty thermistor, faulty PCB
E38	Off	Flashing	1	Flashing	Flashing	Outdoor ambient air sensor	Poor connection, broken wire, faulty thermistor, faulty PCB
E39	Off	Flashing	1	Flashing	Flashing	Discharge pipe thermistor	Poor connection, broken wire, faulty thermistor, faulty PCB
E40	Off	Flashing	1	Flashing	Flashing	High Pressure Error	Activation of HP switch (63H1), closed service valve, faulty PCB (63H1 Circuit)
E41	Off	Flashing	1	Flashing	2 or 6	Power Transistor overheat	Short circuit of air flow, faulty Inverter PCB
E42	Off	Flashing	1	Flashing	1 or 5	Current Cut	Closed service valve, faulty outdoor control PCB
E45	Off	Flashing	1	Flashing	Flashing	Communication Error - Inverter to Control PCBs	Poor Connection, faulty control or inverter PCBs
E47	Off	Flashing	1	Flashing	7	Control PCB, Power transistor	Anomalous inverter over voltage
E48	Off	Flashing	1	Flashing	Flashing	Condenser fan motor	Faulty fan motor or outdoor PCB
E49	Off	Flashing	1	Flashing	Flashing	Low Pressure Error	Closed service valve, short of gas, faulty LP sensor, faulty outdoor control PCB
E51	Off	Flashing	1	Flashing	2 or 6	Inverter Error	Faulty Inverter PCB
E53	Off	Flashing	1	Flashing	Flashing	Suction pipe thermistor	Poor connection, broken wire, faulty thermistor, faulty PCB
E54	Off	Flashing	1	Flashing	Flashing	Low Pressure Sensor Error	Closed service valve, short of gas, faulty LP sensor, faulty outdoor control PCB
E55	Off	Flashing	1	Flashing	Flashing	Under-dome temp thermistor	Poor connection, broken wire, faulty thermistor, faulty PCB
E57	Off	Flashing	1	Flashing	Flashing	Low Pressure Error	Insufficient refrigerant
E59	Off	Flashing	5	Flashing	Off or 4	Compressor start up error	Faulty power supply, faulty inverter circuit.
E60	Off	Flashing	1	Flashing	-	Compressor	Faulty compressor, faulty inverter circuit.
E75	Off	Flashing	Off	Flashing	-	Central Controller communication error	Poor connection, broken wire, faulty controller

PAC SELF-DIAGNOSIS INFORMATION					
Inverter PAC Outdoor		SRC		ZHX-S, ZIX-S, ZJX-S,ZMXA-S	
Error Code	Indoor PCB LEDs		Outdoor Control PCB	Location of trouble	Description of trouble
	RED	GREEN (1)	RED		
E35	Off	Flashing	2	Installation, operation status	Higher outdoor heat exchanger temp
				Outdoor heat exchanger temp sensor	Faulty outdoor heat exchanger temp sensor
				Outdoor control PCB	Faulty outdoor control PCB (temperature sensor input circuit)
E36	Off	Flashing	5	Installation, operation status	Higher discharge temperature
				Discharge pipe temperature sensor	Faulty discharge pipe sensor
				Outdoor control PCB	Faulty outdoor control PCB (temperature sensor input circuit)
E37	Off	Flashing	8	Outdoor heat exchanger temp sensor	Faulty outdoor heat exchanger temp sensor, broken wire or poor connection
				Outdoor control PCB	Faulty outdoor control PCB (temperature sensor input circuit)
E38	Off	Flashing	8	Outdoor air temperature sensor	Faulty outdoor air temp sensor, broken wire or poor connection
				Outdoor control PCB	Faulty outdoor control PCB (temperature sensor input circuit)
E39	Off	Flashing	8	Discharge pipe temperature sensor	Faulty discharge pipe sensor, broken wire, poor connection
				Outdoor control PCB	Faulty outdoor control PCB (temperature sensor input circuit)
E42	Off	Flashing	1	Outdoor control PCB, compressor	Current cut (anomalous compressor over current)
				Installation, operation status	Service valve closing operation
E47	Off	Flashing	2	Outdoor control PCB, power transistor	Anomalous inverter over current
E48	Off	Flashing	Flashing	Outdoor fan motor	Faulty outdoor fan motor
				Outdoor control PCB	Faulty outdoor control PCB
E51	Off	Flashing	1	Power transistor, outdoor control PCB	Power transistor error
E57	Off	Flashing	2	Operation status	Shortage of refrigerant
				Installation status	Service valve closed
E58	Off	Flashing	3	Current safe stop	Overload operation, over charge, compressor locking
E59	Off	Flashing	2	Compressor, outdoor control PCB	Anomalous compressor start up
E60	Off	Flashing	7	Compressor	Anomalous compressor rotor lock

KX SELF-DIAGNOSIS INFORMATION

Inverter KX		LED Display				FDCA----HKXE4_HXKRE4. FDC----KXEN6, KXE6, KXRE6, KXZE1, KXZPE1	
		Indoor		Outdoor			
Error Code	O/D 7 segment display	Green	Red	Green	Red	Location of Trouble	Presumable Causes
E1		keeps flashing	stays off	keeps flashing	stays off	Communication error (indoor-remote control)	Poor or wrong connection, broken wire, intrusion of noise, faulty indoor PCB or remote control
E2		keeps flashing	keeps flashing	keeps flashing	stays off	Duplicated indoor unit address	Number of connected indoor units exceeds the limitation, duplicated indoor unit address, indoor control PWB anomaly.
E3		keeps flashing	2 time flash	keeps flashing	stays off	Outdoor unit signal line error	Power not supplied to the O/D unit, mismatch of pairing between I/D and O/D units, indoor control PWB anomaly, Outdoor control PWB anomaly, Missing local wiring.
E5		keeps flashing	2 time flash or stays off	keeps flashing	2 time flash	Communication error during operation	Unit address number setting error, remote control wires broken, poor connection/disconnection of remote control wires, indoor control PWB anomaly
E6		keeps flashing	1 time flash	keeps flashing	stays off	Indoor heat exchanger thermistor anomaly	Anomalous connection of I/D heat exchanger temperature thermistor, I/D heat exchanger thermistor anomaly, I/D control PWB anomaly
E7		keeps flashing	1 time flash	keeps flashing	stays off	Indoor return air temperature thermistor anomaly	Anomalous connection of I/D return air temperature thermistor, I/D return air thermistor anomaly, I/D control PWB anomaly
E9		keeps flashing	1 time flash	keeps flashing	stays off	Drainage trouble	I/D control PWB anomaly, Mistake in setting of float switch, mistake in setting of optional equipment, mistake in drain piping, drain motor anomaly, disconnection/breakage of drain motor wires
E10		keeps flashing	stays off	keeps flashing	stays off	Excessive number of indoor units (more than 17 units) by controlling one remote control	Excessive number of I/D units, remote control anomaly
E11		keeps flashing	stays off	keeps flashing	stays off	Address setting error between master and slave indoor units	IU address has been set using the "Master IU address set" function of remote control
E12		keeps flashing	keeps flashing	keeps flashing	stays off	Address setting error by mixed setting method	Automatic address setting and manual address setting method are mixed when setting address of indoor units
E16		keeps flashing	1 time flash	keeps flashing	stays off	Indoor fan motor anomaly (FDT, FDTC, FDTW, FDTS, FDU, FDUM, FDK, FDUT71, FDFW series)	I/D fan motor anomaly, foreign matter at rotational area of fan propeller, fan motor anomaly, dust on control PWB, blown fuse, external noise, surge
E18		keeps flashing	1 time flash	keeps flashing	stays off	Address setting error of master and slave indoor units	Address setting error of the master indoor unit, no power to the master indoor unit, no connection of super link signal wires between master and slave indoor unit
E19		keeps flashing	1 time flash	keeps flashing	stays off	Indoor unit operation check drain motor check mode anomaly	Mistake in SW7-1 setting due to forgetting to turn off SW7-1 after indoor operation check

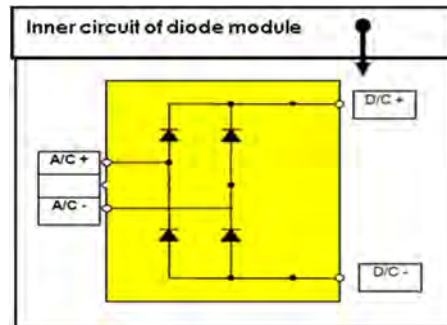
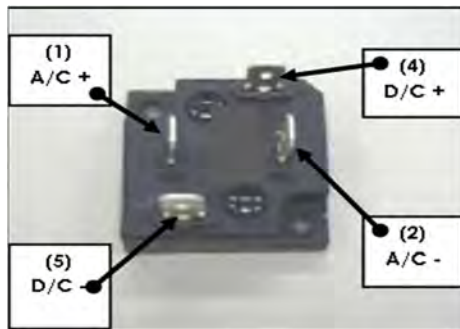
E20		keeps flashing	1 time flash	keeps flashing	stays off	Indoor fan motor speed anomaly (FDT, FDTC, FDTW, FDTS, FDU, FDUM, FDK, FDUT71, FDFW series)	I/D fan motor anomaly, foreign matter at rotational area of fan propeller, fan motor anomaly, dust on control PWB, blown fuse, external noise, surge
E21		keeps flashing	1 time flash	keeps flashing	stays off	Defective panel switch operation (FDT)	Defective panel switch, disconnection of wiring, defective I/D control PWB
E28		keeps flashing	stays off	keeps flashing	stays off	Remote control temperature thermistor anomaly (Thc)	Anomalous connection of remote control temperature thermistor, remote control temperature thermistor anomaly, remote control PWB anomaly
E31		keeps flashing	stays off	keeps flashing	1 time flash	Duplicated outdoor unit address number	Mistake in address setting of outdoor units, more than 129 I/D units connected, no setting of master/slave setting switch for combination use
E32		keeps flashing	stays off	keeps flashing	2 time flash	Open L3 phase on power supply at primary side	Anomalous power supply at primary side, outdoor control PWB anomaly
E36	E36-1	keeps flashing	stays off	keeps flashing	1 time flash	Discharge pipe temperature error, Tho-D1	Discharge pipe temperature anomaly, SV1,2 anomaly, breakage in coil, faulty main body, O/D control PWB anomaly, insufficient amount of refrigerant, insufficient airflow volume, short circuit of airflow KX6 product only
	E36-2	keeps flashing	stays off	keeps flashing	2 time flash	Discharge pipe temperature error, Tho-D2	
	E36-3	keeps flashing	stays off	keeps flashing	3 time flash	Liquid flooding anomaly	
E37	E37-1	keeps flashing	stays off	keeps flashing	1 time flash	Outdoor heat exchanger temperature thermistor anomaly, Tho-R1	Broken thermistor harness or the internal wire of sensing section, disconnection of thermistor harness connection, O/D control PWB anomaly
	E37-2	keeps flashing	stays off	keeps flashing	2 time flash	Outdoor heat exchanger temperature thermistor anomaly, Tho-R2	
	E37-3	keeps flashing	stays off	keeps flashing	3 time flash	Outdoor heat exchanger temperature thermistor anomaly, Tho-R3	
	E37-4	keeps flashing	stays off	keeps flashing	4 time flash	Outdoor heat exchanger temperature thermistor anomaly, Tho-R4	
	E37-5	keeps flashing	stays off	keeps flashing	5 time flash	Outdoor sub cooling coil temperature thermistor 1 anomaly, Tho-SC	
	E37-6	keeps flashing	stays off	keeps flashing	6 time flash	Outdoor sub cooling coil temperature thermistor 2 anomaly, Tho-H	
E38		keeps flashing	stays off	keeps flashing	1 time flash	Outdoor air temperature thermistor anomaly, Tho-A	
E39	E39-1	keeps flashing	stays off	keeps flashing	1 time flash	Discharge pipe temperature thermistor anomaly, Tho-D1	
	E39-2	keeps flashing	stays off	keeps flashing	2 time flash	Discharge pipe temperature thermistor anomaly, Tho-D2	
E40		keeps flashing	stays off	keeps flashing	1 time flash	High Pressure anomaly, 63H1-1, 2 activated	Short circuit of airflow at condenser side of heat exchanger/disturbance of airflow/clogging filter/fan motor anomaly, disconnection of high pressure switch connector, breakage of high pressure switch harness, closed service valves, high pressure sensor anomaly, high pressure switch anomaly
E41	E41-1	keeps flashing	stays off	keeps flashing	1 time flash	Power transistor overheat, CM1	Anomalous high temperature of power transistor is detected 5 times within 60 minutes. Power transistor anomaly, power transistor temperature thermistor anomaly, inverter PWB anomaly, outdoor fan motor anomaly, anomalous cooling fan motor for inverter
	E41-2	keeps flashing	stays off	keeps flashing	2 time flash	Power transistor overheat, CM2	

E42	E42-1	keeps flashing	stays off	keeps flashing	1 time flash	Current cut, CM1	Compressor anomaly, refrigerant leak, power transistor module anomaly, anomalous power supply for INV PWB, O/D fan motor anomaly
	E42-2	keeps flashing	stays off	keeps flashing	2 time flash	Current cut, CM2	
E43	E43-1	keeps flashing	stays off	keeps flashing	1 time flash	Excessive number of indoor units connected	Mistake in setting of I/D or O/D addresses, mistake in signal wire connection
	E43-2	keeps flashing	stays off	keeps flashing	2 time flash	Excessive total capacity of connection	
E44	E44-1	keeps flashing	stays off	keeps flashing	1 time flash	Liquid flooding anomaly, CM1	KXZ Product only. Mismatching of refrigerant piping and or signal wiring, overcharging of refrigerant, anomalous control of superheat, anomalous circuit of liquid refrigerant by-pass, anomalous refrigerant circuit of sub cooling coil, under dome temperature Tho-D1, D2 anomaly
	E44-2	keeps flashing	stays off	keeps flashing	2 time flash	Liquid flooding anomaly, CM2	
E45	E45-1	keeps flashing	stays off	keeps flashing	1 time flash	Communication error between inverter PWB and outdoor control PWB, INV 1	Signal wire anomaly, O/D control PWB anomaly, INV PWB anomaly, inrush current prevention resistor anomaly, defective 52C or 52X, defective diode module
	E45-2	keeps flashing	stays off	keeps flashing	2 time flash	Communication error between inverter PWB and outdoor control PWB, INV 2	
E46		keeps flashing	stays off	keeps flashing	stays off	Mixed address setting methods coexist in the same network	Mistake in the address setting, mistake in the connection of signal wire
E48	E48-1	keeps flashing	stays off	keeps flashing	1 time flash	Outdoor DC fan motor anomaly, FMO1	Broken or disconnected wire, faulty fan motor, defective inverter PWB, defective control PWB, defective power transistor, defective diode module, defective surge suppressor resistor
	E48-2	keeps flashing	stays off	keeps flashing	2 time flash	Outdoor DC fan motor anomaly, FMO2	
E49		keeps flashing	stays off	keeps flashing	1 time flash	Low pressure anomaly	Low pressure sensor (PSL) anomaly, service valves closed, EEV anomaly, insufficient refrigerant amount, clogging at EEV or strainer
E51	E51-1	keeps flashing	stays off	keeps flashing	1 time flash	Power transistor overheat, CM1	Anomalous high temperature of power transistor is detected 15 minutes continuously. Broken thermistor harness or the internal wire of sensing section, disconnection of thermistor harness connection, O/D control PWB anomaly
	E51-2	keeps flashing	stays off	keeps flashing	2 time flash	Power transistor overheat, CM2	
E53	E53-1	keeps flashing	stays off	keeps flashing	1 time flash	Suction pipe temperature thermistor anomaly, Tho-S, CM1	Broken thermistor harness or the internal wire of sensing section, disconnection of thermistor harness connection, O/D control PWB anomaly
	E53-2	keeps flashing	stays off	keeps flashing	2 time flash	Suction pipe temperature thermistor anomaly, Tho-S, CM2	
E54	E54-1	keeps flashing	stays off	keeps flashing	1 time flash	Low pressure anomaly (PSL)	Broken sensor harness, disconnection of sensor harness connection, sensor (PSH, PSL) anomaly, O/D control PWB anomaly, anomalous installation conditions, insufficient airflow volume, excessive or insufficient refrigerant amount
	E54-2	keeps flashing	stays off	keeps flashing	2 time flash	High pressure anomaly (PSH)	
E55	E55-1	keeps flashing	stays off	keeps flashing	1 time flash	Under dome temperature thermistor anomaly, Tho-C1	Broken thermistor harness or the internal wire of sensing section, disconnection of thermistor harness connection, O/D control PWB anomaly
	E55-2	keeps flashing	stays off	keeps flashing	2 time flash	Under dome temperature thermistor anomaly, Tho-C2	
E56	E56-1	keeps flashing	stays off	keeps flashing	1 time flash	Power transistor temperature anomaly, Tho-P1	
	E56-2	keeps flashing	stays off	keeps flashing	2 time flash	Power transistor temperature anomaly, Tho-P2	

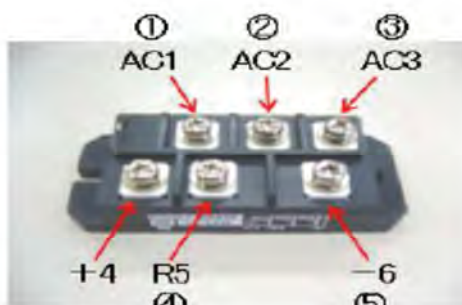
E58	E58-1	keeps flashing	stays off	keeps flashing	1 time flash	Anomalous compressor by loss of synchronism, CM1	Insufficient time elapsed after the power supplied before compressor start up (unit started without crankcase heater ON), compressor anomaly, inverter PWB anomaly, power transistor anomaly
	E58-2	keeps flashing	stays off	keeps flashing	2 time flash	Anomalous compressor by loss of synchronism, CM2	
E59	E59-1	keeps flashing	stays off	keeps flashing	1 time flash	Compressor start up failure, CM1	Anomalous voltage of power supply, anomalous components for refrigerant circuit, inverter PWB anomaly, loose connection of connector or cable, compressor anomaly (motor or bearing)
	E59-2	keeps flashing	stays off	keeps flashing	2 time flash	Compressor start up failure, CM2	
E60	E60-1	Keeps flashing	Stays off	Keeps flashing	1 time flash	Rotor position detection error, CM1	<u>KX4 & KX6 Product.</u> If it fails to detect the rotor position of compressor, after changing over to the operation of compressor rotor position detection, the compressor stops. It restarts automatically after 3 minutes delay. If this anomaly occurs 4 times within 15 minutes after the initial detection, error is displayed
	E60-2	Keeps flashing	Stays off	Keeps flashing	2 time flash	Rotor position detection error, CM2	
E61	E61-1	keeps flashing	stays off	keeps flashing	1 time flash	Communication error between the master unit and slave units, Slave unit 1	Signal wire anomaly, O/D control PWB anomaly, INV PWB anomaly, inrush current prevention resistor anomaly
	E61-2	keeps flashing	stays off	keeps flashing	2 time flash	Communication error between the master unit and slave units, Slave unit 2	
E63		keeps flashing	stays off	keeps flashing	1 time flash	Emergency stop. When an ON signal is inputted to the CNT terminal of I/D control PWB	Factor for emergency stop
E75		keeps flashing	stays off	keeps flashing	stays off	Central control communications error	Poor connection, broken wire, faulty controller

Test Procedure – 1PH & 3PH Diode Module

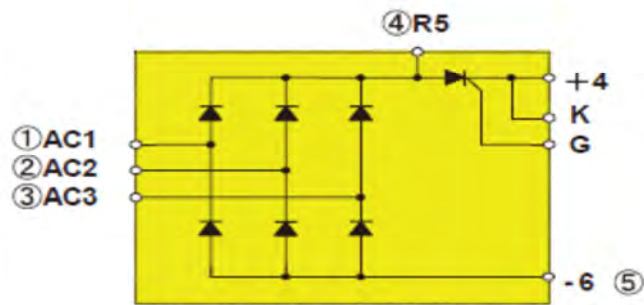
“WARNING” Power off the unit, waiting a minimum 3 minutes before removing any applicable wiring. Ensure to measure that the DC voltage has discharged sufficiently before carrying out the below testing.



Test No:	Tester (+) (Red)	Tester (-) (Black)	Result With Multimeter (Resistance)	Result with Diode Tester (Buzzer)
1	1	4	Several Megohms	On
2	2	4	Several Megohms	On
3	5	1	Several Megohms	On
4	5	2	Several Megohms	On
5	4	1	Several 10 Megohms	Off
6	4	2	Several 10 Megohms	Off
7	1	5	Several 10 Megohms	Off
8	2	5	Several 10 Megohms	Off



Outlook of diode module



Inner circuit of diode module

Measure the resistance the point (No. 1-12) shown in following table by circuit tester. ①-⑤ are the terminal No. shown in the above drawing.

No.	Tester (+) (Red)	Tester (-) (Black)	Resistance (ohm)	Remarks
1	①	④	several MΩ	Upper arm U in normal direction
2	②	④	several MΩ	Upper arm V in normal direction
3	③	④	several MΩ	Upper arm W in normal direction
4	⑤	①	several MΩ	Lower arm U in normal direction
5	⑤	②	several MΩ	Lower arm V in normal direction
6	⑤	③	several MΩ	Lower arm W in normal direction
7	④	①	several 10MΩ	Upper arm U in reverse direction
8	④	②	several 10MΩ	Upper arm V in reverse direction
9	④	③	several 10MΩ	Upper arm W in reverse direction
10	①	⑤	several 10MΩ	Lower arm U in reverse direction
11	②	⑤	several 10MΩ	Lower arm V in reverse direction
12	③	⑤	several 10MΩ	Lower arm W in reverse direction

<Judgement>

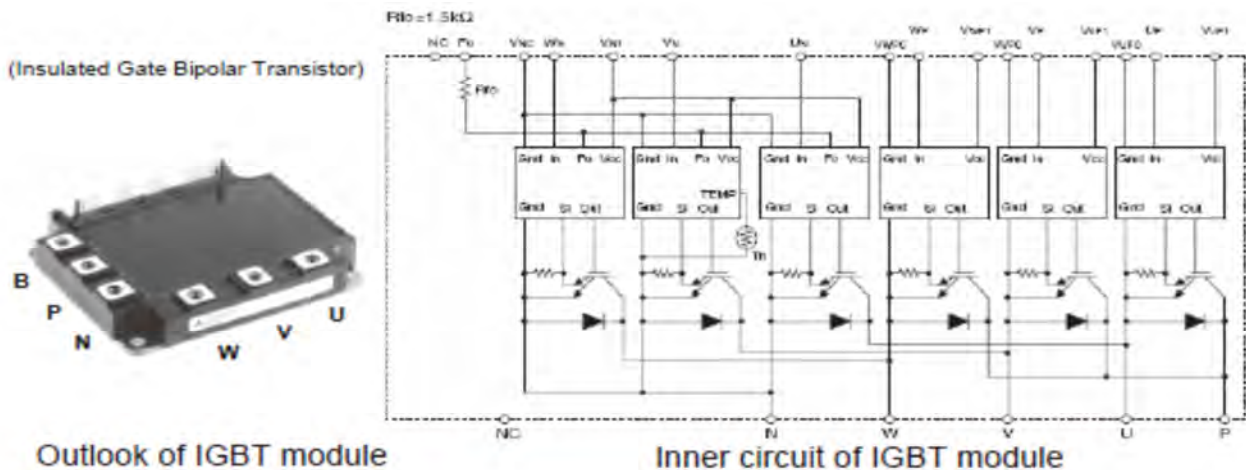
i) If the resistance is 0-several k ohm, diode module could be burnt.

ii) If the resistance is infinitive (∞), diode module could be burnt either.

※In case that the judgement is i) or ii), diode module should be replaced.

Test Procedure – 3 PH Transistor Module

“WARNING” Power off the unit, waiting a minimum 3 minutes before removing any applicable wiring. Ensure to measure that the DC voltage has discharged sufficiently before carrying out the below testing.



Measure the resistance the point shown in following table by circuit tester.
P, N, U, V and W are the terminal No. shown in the above drawing.

Tester (+) Red	Tester (-) Black	Resistance (Ohm)
P	N	OL / Several 10MΩ
N	P	Several MΩ
P	U	OL Several 10MΩ
	V	
	W	
N	U	Several 100kΩ
	V	
	W	
U	P	Several 100kΩ
V		
W		
U	N	OL Several 10MΩ
V		
W		

<Judgement>

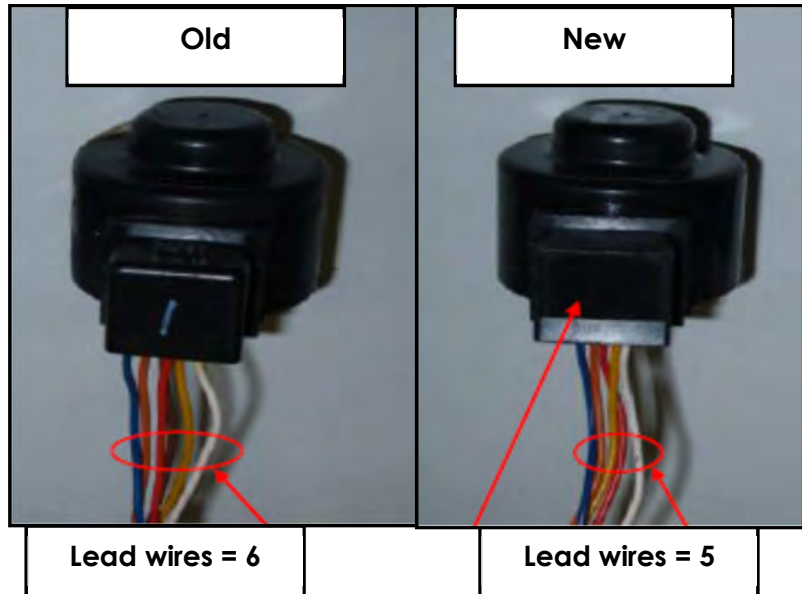
If the measured values range from 0 ~ a few kΩ, there is a possibility that the elements are damaged, so replace the power transistor parts.

Test Procedure – Electronic Expansion Valve

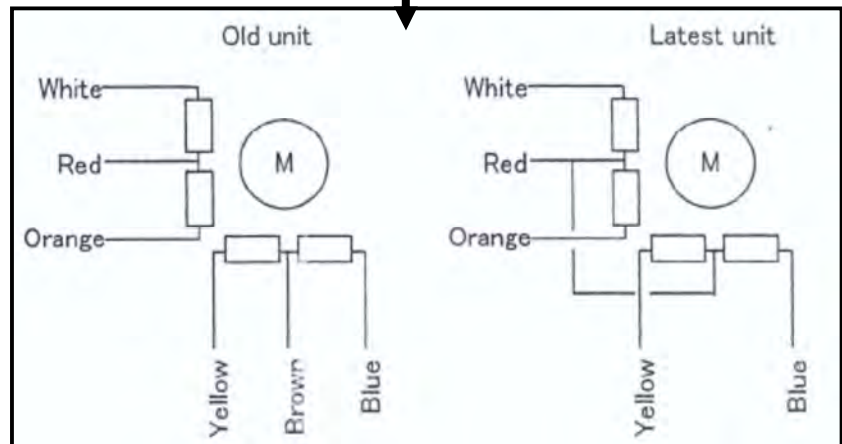
“WARNING” Power off the unit, waiting a minimum 3 minutes before removing any applicable wiring. Ensure to measure that the DC voltage has discharged sufficiently before carrying out the below testing.

Measure the resistance points as per the following table by Multimeter.

If readings are within the nominated table values, it is normal.

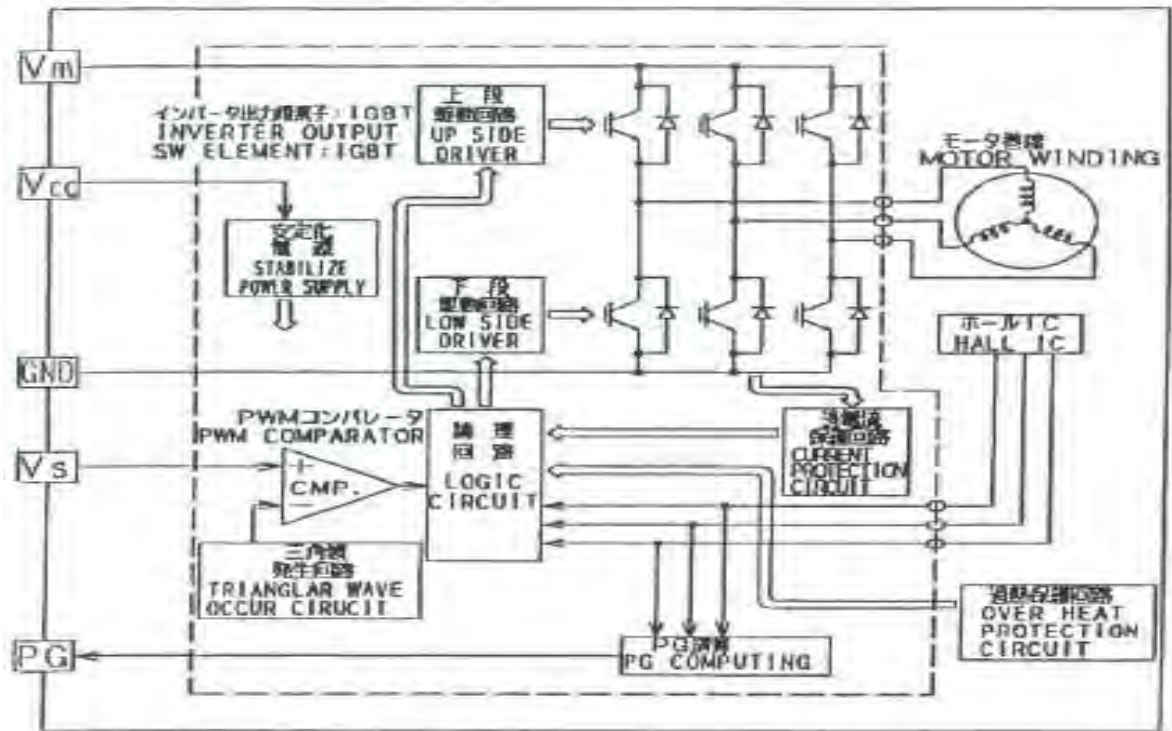


Inner Circuit of EEV Solenoid Coil



From	To	Reference Resistance	Old	New
White	Red	45 - 50 ohms	Yes	Yes
Red	Orange	45 - 50 ohms	Yes	Yes
Orange	White	90 - 100 ohms	Yes	Yes
Yellow	Brown	45 - 50 ohms	Yes	not applicable
Brown	Blue	45 - 50 ohms	Yes	not applicable
Blue	Yellow	90 - 100 ohms	Yes	Yes
Yellow	Red	45 - 50 ohms	not applicable	Yes
Red	Blue	45 - 50 ohms	not applicable	Yes
Blue	Yellow	90 - 100 ohms	not applicable	Yes

DC FAN MOTOR TESTING



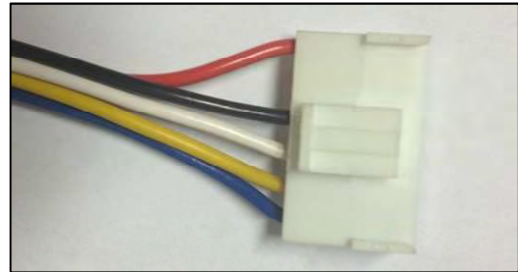
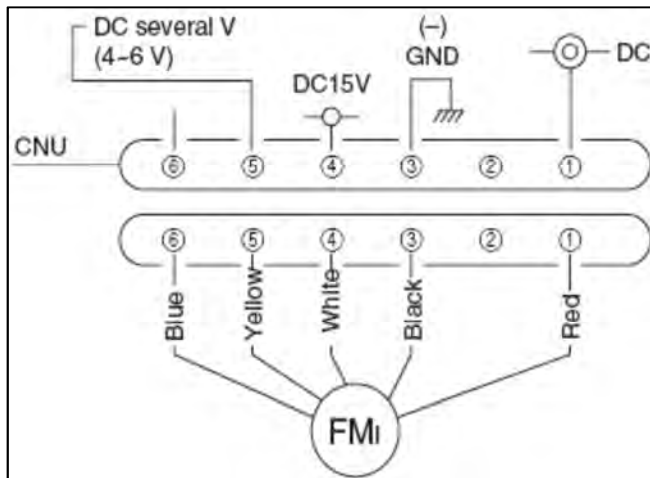
Expected Readings of Control PWB VDC Outputs to DCFM			Expected Readings of DC Fan Motor Circuit Board Resistances		
Multi Meter Test Points for VDC			Multi Meter Test Points for Ω		
Multimeter Red Probe	Multimeter Black Probe	PCB DC Volts	Multimeter Black Probe	Multimeter Red Probe	DCFm PWB Resistance Value
Vm	Gnd	# 300 ~ 350 Vdc	Vm	Gnd	# > 1 MΩ
Vcc	Gnd	# 15 Vdc	Vcc	Gnd	# > 4 KΩ
Vsp	Gnd	* 2 ~ 7 Vdc	Vsp	Gnd	# > 100 KΩ
Vfg	Gnd	* 2 ~ 7 Vdc	Vfg	Gnd	
* All Series – Voltages are only present during operation.			# If Resistance Values are ok, confirm with DCFM Tester.		
# ZM Series onwards - Voltages are only present during operation.			Note: If no resistance value is evident, reverse multimeter probes and re-test.		

Wiring of DC Fan Motor		DC Fan Motor Type		
		Type A	Type B / C	Type D
Vm	Motor Power Voltage Input	Red	Red	Red
Gnd	Ground	Black	Blue	Black
Vcc	Control Power Voltage Input	White	Brown	White
Vsp	Speed Control Voltage Input	Yellow	Orange	Yellow
Vfg	Revolution Pulse Output	Blue	White	Blue

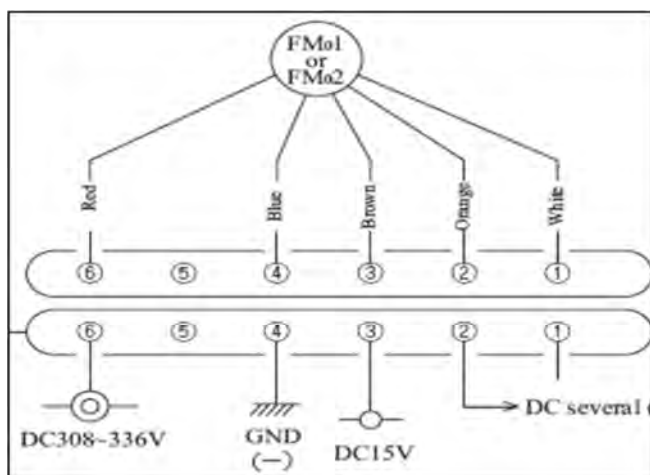
IMPORTANT NOTE: The current version of the DCFM Tool, Part No: RMA006A012A (short/wide model) can run/test the Type C fan motor. The original version of the DCFM Tool, Part No: RMA006A012 (long/narrow model) cannot run/test the Type C fan motor.

DC FAN MOTOR TESTING

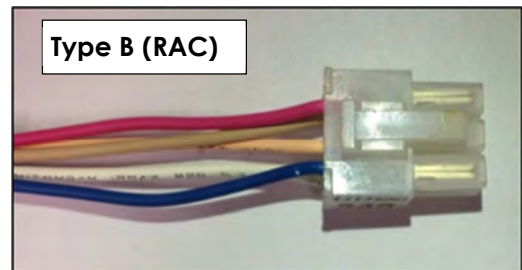
Type "A" Fan Motor



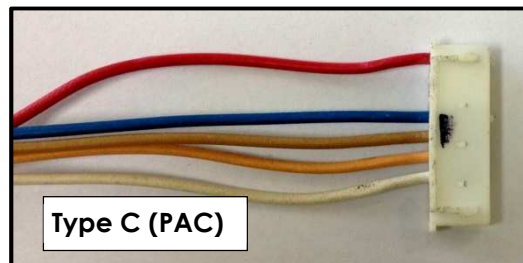
Type "B / C" Fan Motor



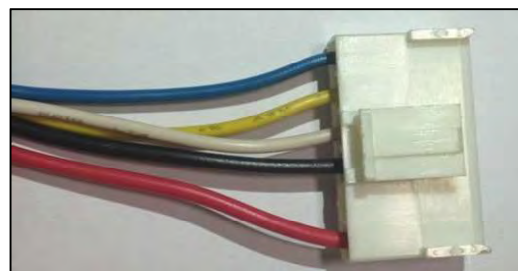
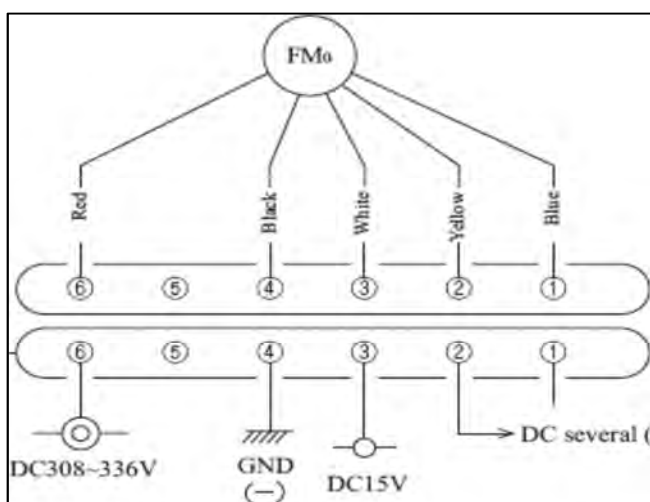
Type B (RAC)



Type C (PAC)



Type 'D' Fan Motor



KX PRODUCT

Subject : Outdoor DC Fan Motor

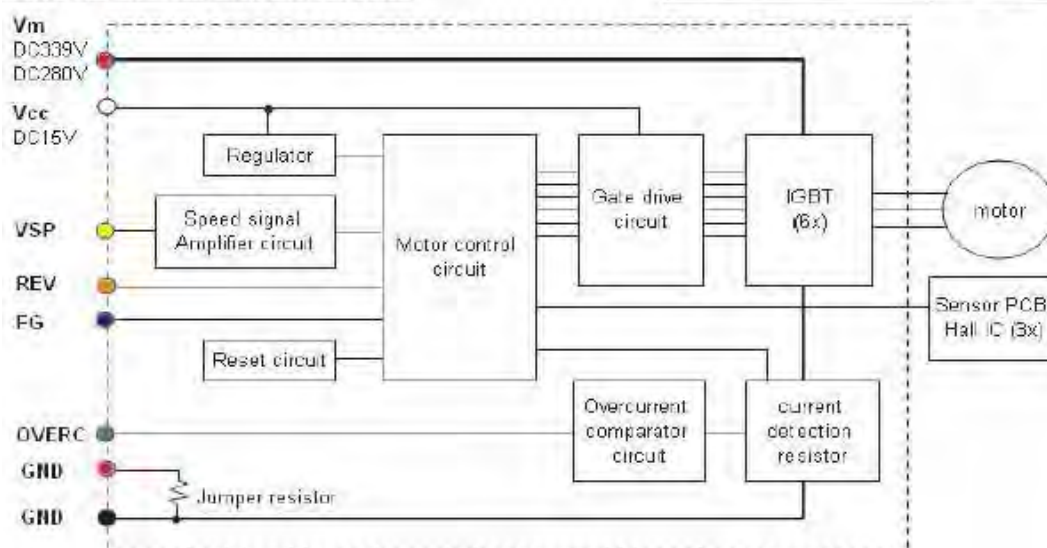
Connection Table of Power Lead Wires

No.	Color code	
1	RED	Vm
2	BLACK	GND

Connection Table of Sensor Lead Wires

No.	Color code	
1	WHITE	Vcc
2	ORANGE	REV
3	YELLOW	VSP
4	BLUE	FG
5	GREEN	OVERC
6	PINK	GND

OUTLINE OF THE DRIVER CIRCUIT



Measure the resistance

Measure point	Tester (+) Red	Tester (-) Black	Resistance (Ohm)	Tester (-) Black	Tester (+) Red	Resistance (Ohm)
Vm - GND	Red	Black	several ten MΩ	Black	Red	several MΩ
Vcc - GND	White	Pink	several kΩ	Pink	White	several kΩ
Vsp - GND	Yellow	Pink	several handred kΩ	Pink	Yellow	several handred kΩ
FG - GND	Blue	Pink	OL	Pink	Blue	several ten MΩ
Vm - Vcc	Red	White	several ten MΩ	White	Red	several MΩ
Vm - Vsp	Red	Yellow	several ten MΩ	Yellow	Red	several MΩ
Vm - FG	Red	Blue	OL	Blue	Red	OL
Vcc - Vsp	White	Yellow	several handred kΩ	Yellow	White	several handred kΩ
Vcc - FG	White	Blue	several ten MΩ	Blue	White	OL
Vsp - FG	Yellow	Blue	several ten MΩ	Blue	Yellow	OL

Note:

- Vm : DC 15 V output
- REV : Reverse turn detection output
- Vsp : Speed command output
- FG : RPM monitor input
- OverC: Over - current error input

THERMISTOR TEMPERATURE & RESISTANCE CHARACTERISTICS

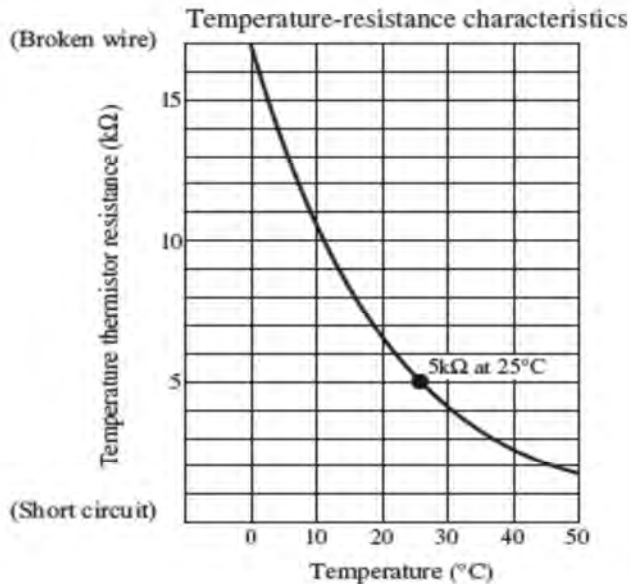
O/D Heat Exchanger [Tho-R1,R2,R3,R4]

I/D Heat Exchanger [Thi-R1,R2,R3]

Outside Air [Tho-A] RAC Product

Suction Pipe [Tho-S, Tho-H]

Return Air [Thi-A]

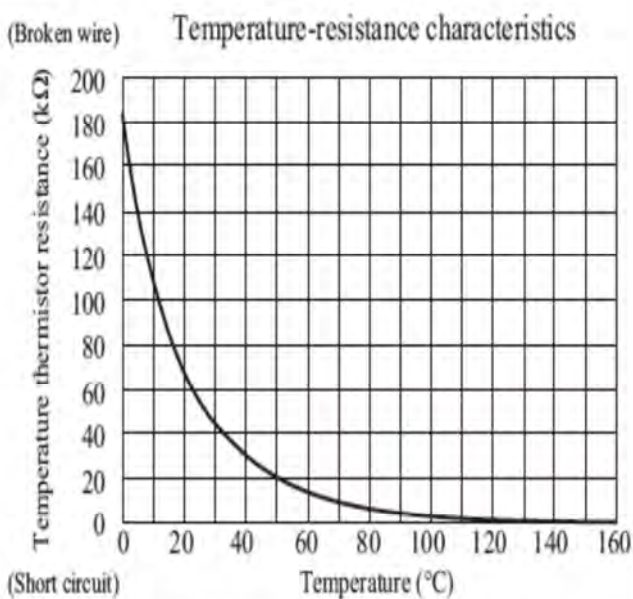


Wall Controller [ThC]

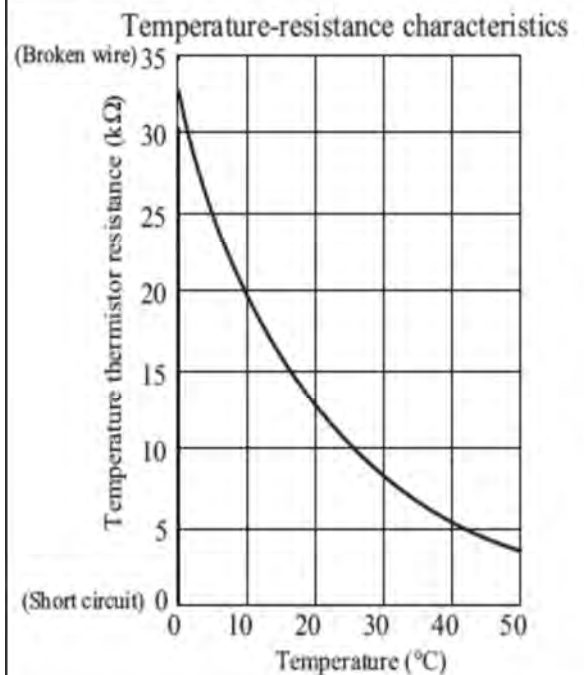
Temperature (°C)	Resistance value (kΩ)	Temperature (°C)	Resistance value (kΩ)
0	65	30	16
1	62	32	15
2	59	34	14
4	53	36	13
6	48	38	12
8	44	40	11
10	40	42	9.9
12	36	44	9.2
14	33	46	8.5
16	30	48	7.8
18	27	50	7.3
20	25	52	6.7
22	23	54	6.3
24	21	56	5.8
26	19	58	5.4
28	18	60	5

Discharge Pipe [Tho-D]

Power Transistor [Tho-P]



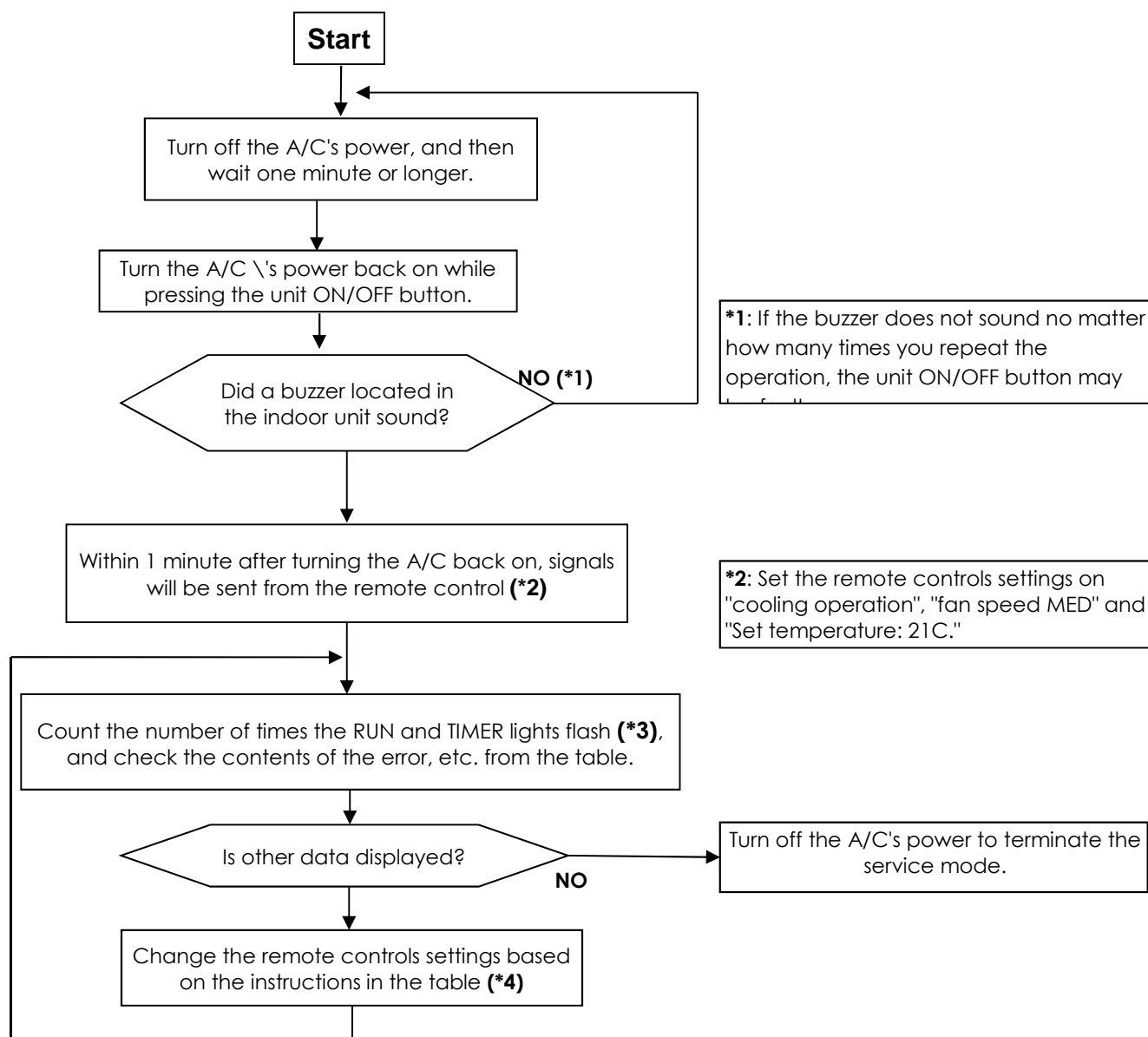
Outdoor Air [Tho-A] PAC Product



Hi-Wall Mounted Inverter Split Systems - SERVICE MODE – SRK / DXK (R410A Models only)

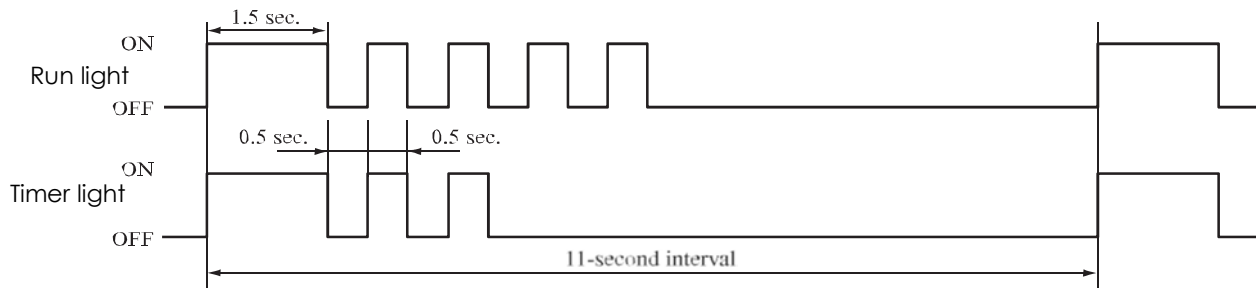
Term	Explanation
Service Mode	The service mode is the mode where service data are displayed by flashing lights when the operations described below are performed with the indoor controller
Service Data	These are the contents of error displays and protective stops which occurred in the past in the system. Error display contents and protective stop data from past anomalous operations are saved in the indoor unit controller's non-volatile memory. There are two types of data, self-diagnosis data and stop data.
Self-Diagnosis Data (Error code)	These are the data which display error display (self-diagnosis display) occurred in an indoor unit. Data are recorded for up to 5 previous occurrences. Data which is older than the 5th previous occurrence are erased. In addition, data on the temperature of each sensor are recorded when trouble occurs, so more detailed information can be checked.
Stop Data (Stop code)	These are the data which display the reason by which a stop occurred when the system performed protective stops, etc. in the past. If stop data alone are generated, the system restarts automatically. Data older than the 10th previous occasion are erased. (Important) In cases where transient stop data only are generated, the system may still be normal. However, if the same protective stop occurs frequently (3 or more times), it could lead to customer complaints

Service mode display procedure



***3: To Count the number of flashes in the service mode, count the number of flashes after the light lights up for 1.5 sec initially (start signal). Do not count start signal.**

- In the case of current cut (example: stop code "42")
The RUN light (10's digit) flashes 4 times and the TIMER light (1's digit) flashes 2 times.
 $4 \times 10 + 2 \times 10 = 42$ > from the table, read the instructions for error code 42, "current cut".



***4: When in the service mode, when the remote control settings (operation switching, fan speed switching, temperature setting) are set as shown in the following table and sent to the air conditioner unit, the unit switches to display of service data.**

SELF-DIAGNOSTIC DATA		
Remote Control Setting		Contents of Output Data
Operation Mode	Fan Speed	
Cooling	MED	Displays the reason for stopping display in the past (error code).
	HI	Displays the room temp sensor reading at the time the error code was displayed in the past.
	AUTO	Displays indoor heat exchanger sensor temp at the time the error code was displayed in the past.
Heating	LO	Displays the remote control information at the time the error code was displayed in the past.
	MED	Displays the outdoor air temp sensor reading at the time the error code was displayed in the past.
	HI	Displays the outdoor heat exchanger sensor temp at the time the error code was displayed in the past.
	AUTO	Displays the discharge pipe sensor temp at the time the error code was displayed in the past.

Remote Control Temp Setting	When Error Occurred
21°C	Previous time
22°C	2nd previous time
23°C	3rd previous time
24°C	4th previous time
25°C	5th previous time

Only for Indoor Heat Exchanger 2 (ZHX, ZIX, ZJ, ZJX, ZK, ZL)	
Remote Control Temp Setting	When error occurred
26°C	Previous time
27°C	2nd previous time
28°C	3rd previous time
29°C	4th previous time
30°C	5th previous time

ERROR CODE DATA			
Remote Control Setting			Displayed Data
Operation Switching	Fan Speed Switching	Temperature Setting	
Cooling	Medium	21°C	Displays the reason for the stop the previous time an error code was displayed
		22°C	Displays the reason for the stop 2 times previous time an error was displayed
		23°C	Displays the reason for the stop 3 times previous time an error was displayed
		24°C	Displays the reason for the stop 4 times previous time an error was displayed
		25°C	Displays the reason for the stop 5 times previous time an error was displayed

STOP DATA			
Remote Control Setting			Displayed Data
Operation Switching	Fan Speed Switching	Temperature Setting	
Cooling	LO	21°C	Displays the stop code the previous time when the A/C was stopped by protective control.
		22°C	2 times previous
		23°C	3 times previous
		24°C	4 times previous
		25°C	5 times previous
		26°C	6 times previous
		27°C	7 times previous
		28°C	8 times previous
		29°C	9 times previous
		30°C	10 times previous

Remote Control Information Tables			
Display pattern when in Service Mode			
RUN light [i] Operation switching	Operation switching when there is an abnormal stop	TIMER light [ii] Fan Speed Switching	Fan Speed Switching when there is an abnormal stop
0	AUTO	0	AUTO
1	DRY	2	HI
2	COOL	3	MED
3	FAN	4	LO
4	HEAT	6	HI POWER
		7	ECONO

- If no data is recorded (error code is normal), the information display in the remote control becomes as follows;

Remote control setting	Display when error code is normal
Operation switching	Auto
Fan speed switching	Auto

SENSOR TABLE

Room temperature sensor, indoor heat exchanger sensor, outdoor air temperature sensor, outdoor heat exchanger sensor.

Buzzer sound	Run light (10's digit) \ Timer Light (1's digit)	0	1	2	3	4	5	6	7	8	9
Yes (sounds for 0.1 second)	6	-60	-61	-62	-63	-64					
	5	-50	-51	-52	-53	-54	-55	-56	-57	-58	-59
	4	-40	-41	-42	-43	-44	-45	-46	-47	-48	-49
	3	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39
	2	-20	-21	-22	-23	-24	-25	-26	-27	-28	-29
	1	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19
	0		-1	-2	-3	-4	-5	-6	-7	-8	-9
No (does not sound)	0	0	1	2	3	4	5	6	7	8	9
	1	10	11	12	13	14	15	16	17	18	19
	2	20	21	22	23	24	25	26	27	28	29
	3	30	31	32	33	34	35	36	37	38	39
	4	40	41	42	43	44	45	46	47	48	49
	5	50	51	52	53	54	55	56	57	58	59
	6	60	61	62	63	64	65	66	67	68	69
	7	70	71	72	73	74	75	76	77	78	79
	8	80	81	82	83	84	85	86	87	88	89
	9	90	91	92	93	94	95	96	97	98	99

SENSOR TABLE

Discharge Pipe Sensor

Buzzer sound	Run Light (1's Digit) \ Timer light (10's Digit)	0	1	2	3	4	5	6	7	8	9
Yes (sounds for 0.1 second)	3	-60	-62	-64							
	2	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58
	1	-20	-22	-24	-26	-28	-30	-32	-34	-36	-38
	0		-2	-4	-6	-8	-10	-12	-14	-16	-18
No (does not sound)	0	0	2	4	6	8	10	12	14	16	18
	1	20	22	24	26	28	30	32	34	36	38
	2	40	42	44	46	48	50	52	54	56	58
	3	60	62	64	66	68	70	72	74	76	78
	4	80	82	84	86	88	90	92	94	96	98
	5	100	102	104	106	108	110	112	114	116	118
	6	120	122	124	126	128	130	132	134	136	138
	7	140	142	144	146	148	150				

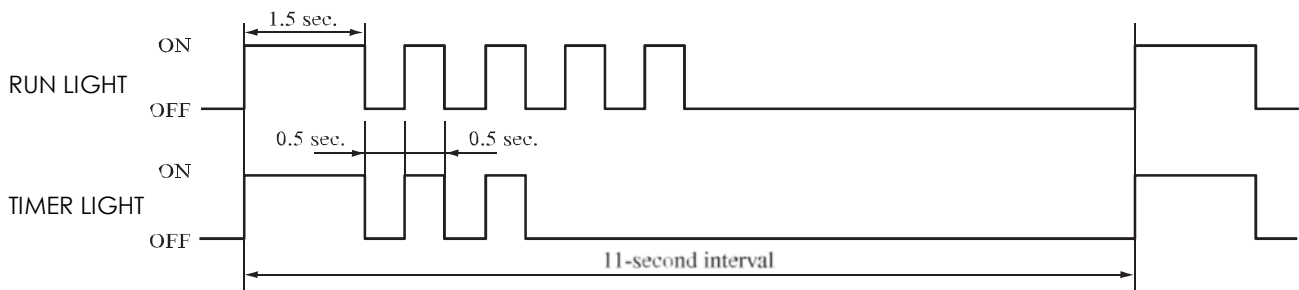
- If no data is recorded (error code is normal), the information display in the remote control becomes as follows.

Sensor name	Sensor value displayed when the error code is normal
Room temperature sensor	-64°C
Indoor heat exchanger sensor	-64°C
Outdoor air temperature sensor	-64°C
Outdoor heat exchanger sensor	-64°C
Discharge pipe sensor	-64°C

- **EXAMPLE - Outdoor air sensor temperature “42 °C”**

If the temperature is ≥ 0 , the buzzer does not sound.

Run light x4, Timer light x 2.



No Buzzer, Run light x 4, Timer light x 2.

SERVICE DATA RECORD FORM							
Customer				Model number			
Date of Investigation				Serial number			
Content of Complaint							
Remote Control Settings			Content of displayed data	Display results			Display content
Temp setting	Operation switching	Fan speed switching		Buzzer Yes/No	RUN light (Times)	TIMER light (Times)	
21	Cooling	MED	Error code on previous occasion	/			
		HI	Room temperature sensor on previous occasion				
		AUTO	Indoor heat exchanger sensor 1 on previous occasion				
	Heating	LO	Remote control information on previous occasion	/			
		MED	Outdoor air temperature sensor on previous occasion				
		HI	Outdoor heat exchanger sensor on previous occasion				
		AUTO	Discharge pipe sensor on previous occasion				
26	Cooling	AUTO	Indoor heat exchanger sensor 2 on previous occasion				
22	Cooling	MED	Error code on 2nd previous occasion	/			
		HI	Room temperature sensor on 2nd previous occasion				
		AUTO	Indoor heat exchanger sensor 1 on 2nd previous occasion				
	Heating	LO	Remote control information on 2nd previous occasion	/			
		MED	Outdoor air temperature sensor on 2nd previous occasion				
		HI	Outdoor heat exchanger sensor on 2nd previous occasion				
		AUTO	Discharge pipe sensor on 2nd previous occasion				
27	Cooling	AUTO	Indoor heat exchanger sensor 2 on 2nd previous occasion				
23	Cooling	MED	Error code on 3rd previous occasion	/			
		HI	Room temperature sensor on 3rd previous occasion				
		AUTO	Indoor heat exchanger sensor 1 on 3rd previous occasion				
	Heating	LO	Remote control information on 3rd previous occasion	/			
		MED	Outdoor air temperature sensor on 3rd previous occasion				
		HI	Outdoor heat exchanger sensor on 3rd previous occasion				
		AUTO	Discharge pipe sensor on 3rd previous occasion				
28	Cooling	AUTO	Indoor heat exchanger sensor 2 on 3rd previous occasion				
24	Cooling	MED	Error code on 4th previous occasion	/			
		HI	Room temperature sensor on 4th previous occasion				
		AUTO	Indoor heat exchanger sensor 1 on 4th previous occasion				
	Heating	LO	Remote control information on 4th previous occasion	/			
		MED	Outdoor air temperature sensor on 4th previous occasion				
		HI	Outdoor heat exchanger sensor on 4th previous occasion				
		AUTO	Discharge pipe sensor on 4th previous occasion				
29	Cooling	AUTO	Indoor heat exchanger sensor 2 on 4th previous occasion				
25	Cooling	MED	Error code on 5th previous occasion	/			
		HI	Room temperature sensor on 5th previous occasion				
		AUTO	Indoor heat exchanger sensor 1 on 5th previous occasion				
	Heating	LO	Remote control information on 5th previous occasion	/			
		MED	Outdoor air temperature sensor on 5th previous occasion				
		HI	Outdoor heat exchanger sensor on 5th previous occasion				
		AUTO	Discharge pipe sensor on 5th previous occasion				
30	Cooling	AUTO	Indoor heat exchanger sensor 2 on 5th previous occasion				
21	Cooling	LO	Stop code on previous occasion				
22			Stop code on 2nd previous occasion				
23			Stop code on 3rd previous occasion				
24			Stop code on 4th previous occasion				
25			Stop code on 5th previous occasion				
26			Stop code on 6th previous occasion				
27			Stop code on 7th previous occasion				
28			Stop code on 8th previous occasion				
29			Stop code on 9th previous occasion				
30			Stop code on 10th previous occasion				
Judgement							
Remarks							

ERROR CODE & STOP CODE TABLE							
Models		SRK	ZD, ZF, ZG,		ZDX-S, ZFX-S, ZGX-S	ZEA-S, ZE-S1	YJ-S, YL-S
		DXK	Z3-S				
Flashes in Service Mode		Stop or Error Code	Error Content		Cause	Occurrence Conditions	
			Major Category	Minor Category			
Run	Timer						
1 time	1 time	11	Current Cut	Comp software start	Comp Lock, Wiring short, Comp output is open phase, Outdoor PCB faulty	Compressor start fails 42 times in succession and the final failure is current cut.	
	2 time	12		Lower than 20 rps	Service valve closed, Compressor output open phase, EEV faulty	After the compressor starts, it stops due to current cut at less than 20 rps	
	3 time	13		20 rps or higher	Service valve closed, Compressor output open phase, EEV faulty	When operation is stopped by current cut at 20 rps or higher.	
	4 time	14		Excessive voltage (DC 350V)	Outdoor PCB faulty, Power supply abnormal	When the DC voltage (DC 280V) exceeds 350V	
	5 time	15		Short circuit in power transistor (high side)	Outdoor PCB faulty, power transistor damaged	When it is judged that the power transistor was damaged at the time the compressor started	
	6 time	16		Current cut circuit breakdown	Outdoor PCB faulty, power transistor damaged		
2 time	1 time	21	Outdoor unit error	PWM calculation results are abnormal	Compressor wires are disconnected, Power transistor is damaged	When PWM calculation results are 0% continued for 3 minutes or longer	
	2 time	22		Input is 2A or lower (PWM 90% or higher)	Compressor wires are disconnected, outdoor PCB is faulty	When PWM calculation results of 90% and an input current lower than the set valve continue for 3 minutes or longer	
	3 time	23		Abnormal stop 3 times in 20 minutes	Service valve is closed. Compressor output is open phase. Electronic expansion valve is faulty. Low on gas.	When an abnormal stop occurs 3 times with automatic recovery within 20 minutes after the outdoor unit's power supply was turned on.	
	9 time	29		Voltage drop	Power supply is faulty. Outdoor PCB is faulty	When the power supply voltage drops during operation.	
	7 time	27	Outdoor fan motor error	Outdoor unit's fan motor is abnormal (DC motor only)	Outdoor fan motor faulty. Poor connection. Faulty outdoor PCB	When a fan speed of 75rpm or lower continues for 30 seconds or longer.	
3 time	1 time	31	Current Safe	Cooling current safe 1	Overcharge. Compressor lock	When there is a current safe stop in current safe mode 1 mode during cooling operation	
	2 time	32		Heating current safe 1		When there is a current safe stop in current safe mode 1 mode during heating operation	
	3 time	33		Cooling current safe 2		When there is a current safe stop in current safe mode 2 mode during cooling operation	
	4 time	34		Heating current safe 2		When there is a current safe stop in current safe mode 2 mode during heating operation	

ERROR CODE & STOP CODE TABLE							
Models		SRK	ZD-S, ZF-S, ZG-S	ZDX-S, ZFX-S, ZGX-S	ZE-S1, ZEA-S	YL-S, YJ-S	
		DXK	Z3-S				
Flashes in Service Mode		Stop or Error code	Error Content		Cause	Occurrence Conditions	
			Major Category	Minor Category			
Run	Timer						
3 time	5 time	35	Current Safe	Cooling current safe 3	Overcharge. Compressor lock	When there is a current safe stop in current safe mode 3 mode during cooling operation	
	6 time	36		Heating current safe 3		When there is a current safe stop in current safe mode 3 mode during heating operation	
	7 time	37		Heating current safe 3 + 3A		When there is a current safe stop in current safe mode 3 + 3A mode during heating operation	
4 time	1 time	41	Current Safe	Cooling overload 1 (outdoor temp 36~40°C)	Overcharge. Compressor lock. Overload operation	When there is a current safe stop in overload 1 mode during cooling operation	
	2 time	42		Heating overload 1 (outdoor temp 5~12°C)		When there is a current safe stop in overload 1 mode during heating operation	
	3 time	43		Cooling overload 2 (outdoor temp 40~45°C)		When there is a current safe stop in overload 2 mode during cooling operation	
	4 time	44		Heating overload 2 (outdoor temp 12~17°C)		When there is a current safe stop in overload 2 mode during heating operation	
	5 time	45		Cooling overload 3 (outdoor temp 45°C~)		When there is a current safe stop in overload 3 mode during cooling operation	
	6 time	46		Heating overload 3 (outdoor temp 17°C~)		When there is a current safe stop in overload 3 mode during heating operation	
5 time	OFF	50	Comp overheat	110°C	Service valve closed. Low on gas. Discharge pipe sensor is faulty	When the discharge pipe's sensor exceeds the set value	
	1 time	51	Power transistor overheat	110°C	Cooling problem	When power transistor temp exceeds setting value (compressor stops).	
6 time	OFF	60	Serial signal error	Signal not received for 1 min & 55 sec	Power supply faulty. Incorrect wiring. Indoor/ outdoor PCB faulty	When 1 min 55sec passes without communication from either the outdoor or indoor being detected correctly	
	1 time	61		Faulty interconnect wiring	Connections between indoor and outdoor are faulty. Faulty indoor/ outdoor PCB	When 10 sec passes after the power is on without communication signals from the indoor/ outdoor unit being detected correctly	
	2 time	62		Serial transmission error	Indoor/ outdoor PCB faulty. Noise causing faulty operation	When 1 min 50 sec passes without communication signals from either indoor or outdoor unit being detected correctly	

ERROR CODE & STOP CODE TABLE							
Models		SRK	ZD-S, ZF-S, ZG-S		ZDX-S, ZFX-S, ZGX-S	YJ-S, YL-S	ZE-S1, ZEA-S
		DXK	Z3-S				
Flashes in Service Mode		Stop or Error Code	Error content		Cause	Occurrence Conditions	
			Major Category	Minor Category			
Run	Timer						
7 time	1 time	71	Rotor lock	Less than 16 rps	Compressor faulty. Compressor output is open phase. EEV is faulty.	After the compressor starts, when it stops at less than 16 rps due to rotor lock	
	2 time	72		16 rps or higher	Overload operation. Outdoor unit PCB is faulty.	When the comp stops at 16rps or higher due to rotor lock	
	3 time	73		Phase switching defects (U phase)	Compressor is faulty. Compressor wiring is faulty. Outdoor unit PCB is faulty	When compressor start fails 42 times in succession and the reason for the final failure is rotor lock.	
	4 time	74		Phase switching defects (V phase)			
	5 time	75		Phase switching defects (W phase or can't distinguish)			
	6 time	76		Comp software start (within 4 sec after phase switching)			
8 time	OFF	80	Protective control operation	Indoor unit fan motor is abnormal	Faulty connection. Faulty fan motor. Indoor PCB faulty	When indoor fan motor is detected to be running at 300rpm or lower.	
	1 time	81		Discharge pipe sensor is abnormal (anomalous stop)	Senor wire disconnected faulty connection	When a disconnected signal (temp below 7°C) is sent for 15 sec or longer as the sensor data after the comp speed is 0rps or higher cont. for 9 min.	
	2 time	82		Indoor heat exchanger sensor is abnormal (anomalous stop)	Senor wire disconnected faulty connection	When a temperature of -20°C or lower is sensed cont. for 40 min during heating operation. (Compressor stops)	
	3 time	83		Outdoor heat exchanger sensor is abnormal (anomalous stop)	Senor wire disconnected faulty connection	When a temperature or - 50°C or lower is sensed cont. for 40 min during heating operation. Compressor stops	
	4 time	84		Anti - condensation control	High humidity. Faulty humidity sensor	Anti-condensation prevention control is operating	
	5 time	85		Anti-frost control	Indoor fan speed drops. Indoor heat exchanger sensor short circuit	When the anti-frost control operates and the compressor stops during cooling operation.	
	6 time	86		High pressure control	Heating overload. Indoor fan speed drops. Indoor heat exchanger sensor short circuit	When high pressure control operates during heating operation and the comp stops.	
	7 time	87		Comp overheating protection control	Short of gas. Discharge pipe sensor is faulty. Closed service valve.	When compressor overheating protective control operates and the compressor stops.	
	8 time	88		Refrigeration cycle system protective control	Service valve closed. Short of gas.	When refrigerant cycle system protective control operates.	

ERROR CODE & STOP CODE TABLE

Models		SRK	ZJ-S, ZJ-S1, ZMA-S	ZHX-S, ZIX-S, ZJX-S,ZMXA-S	ZK-S, ZL-S
		DXK	ZJ-S, Z4-S, ZL-S,ZMA-S		
Flashes in Service Mode		Stop or Error Code	Error Content	Cause	Occurrence Conditions
Run	Timer				
OFF	OFF	00	Normal	-	-
	5 time	05	Cannot receive signals for 35 sec (if communications have recovered	Power supply is faulty. Power supply cables and signal lines are improperly wired. Indoor/ outdoor PCBs are faulty.	When 35 sec passes without communications signals from either the outdoor or indoor unit being detected correctly
3 time	5 time	35	Cooling high pressure control	Cooling overload operation. Outdoor fan speed drops. Outdoor heat exchanger sensor is short circuit.	When the outdoor heat exchanger sensor's value exceeds the set value.
	6 time	36	Compressor over heat (115°C)	Low on gas. Discharge pipe sensor is faulty. Service valve is closed	When the discharge pipes sensor value exceeds the set value.
	7 time	37	Outdoor heat exchanger sensor is abnormal.	Outdoor heat exchanger faulty. Poor connections	When a temp of -55°C or lower is sensed cont. for 20 sec while the power is on or after the outdoor units speed has continued at 0rps or higher for 2 min. (The comp stops)
	8 time	38	Outdoor air temp sensor is abnormal	Outdoor air temp sensor wire is faulty. Poor connection	When a temp of -55°C or lower is sensed cont. for 20 sec while the power is on or after the outdoor units speed has continued at 0rps or higher for 2 min. (The comp stops)
	9 time	39	Discharge pipe sensor is abnormal (anomalous stop)	Discharge pipe sensor wire is faulty. Poor connection	When a temp of -25°C or lower is sensed cont. for 20 sec after the outdoor units speed has continued at 0rps or higher for 10 min. (the comp stops)
4 time	OFF	40	Service valve (gas side) closed	Service valve closed, or faulty outdoor PCB	If the inverter output current exceeds set value within 80 seconds, after compressor ON in heating
	2 time	42	Current cut	Service valve closed. Compressor locked/faulty. Outdoor PCB faulty. EEV faulty.	Compressor start fails 42 times in succession and final reason for failure is current cut.
	7 time	47	Active filter voltage error	Defective active filter.	When the wrong voltage connected for the power supply. When the outdoor control PCB is faulty.
	8 time	48	Outdoor fan motor abnormal	Poor connection. Faulty fan motor. Faulty PCB.	When a fan speed of 75rpm or lower continues for 30 sec or longer.

ERROR CODE & STOP CODE TABLE

Models		SRK	ZJ-S, ZJ-S1,ZMA-S	ZHX-S, ZIX-S, ZJX-S,ZMXA-S	ZK-S, ZL-S
		DXK	ZJ-S, Z4-S, ZL-S,ZMA-S		
Flashes in Service Mode		Stop or Error Code	Error Content	Cause	Occurrence Conditions
Run	Timer				
5 time	1 time	51	Short circuit in the power transistor (high side) Current cut circuit breakdown	Outdoor PCB is faulty, power transistor damaged	When it is judged that the power transistor was damaged at the time the compressor started.
	7 time	57	Refrigeration cycle system protective control	Service valve closed. Short of gas.	When the refrigeration cycle protective control operates
	8 time	58	Current safe	Refrigerant is overcharged. Compressor locked. Overload operation.	When there is a current safe during operation.
	9 time	59	Compressor wiring is disconnected. Voltage drop. Low speed protective control	Compressor wiring is disconnected. Power transistor is damaged. Power supply construction is defective. Outdoor PCB is faulty.	When the current is 1A or less at the time the compressor started. When the power supply voltage drops during operation. When the outdoor unit's speed is lower than 26rps for 60 min.
6 time	OFF	60	Rotor lock	Overload operation. Faulty compressor. Faulty EEV. Faulty outdoor PCB.	After the compressor starts, when the compressor stops due to rotor lock.
	1 time	61	Connection lines between the indoor & outdoor are faulty.	Connection line is faulty. Indoor or outdoor PCBs are faulty.	When 10 sec passes after the power on without communications signals from the indoor or outdoor being detected correctly
	2 time	62	Serial signal error	Indoor or outdoor unit PCBs are faulty. Noise causing faulty operation.	When 7 min 35 sec passes without communication signals from indoor or outdoor unit being detected correctly.
8 time	OFF	80	Indoor fan motor is faulty	Indoor fan motor is faulty. Poor connection. Faulty indoor PCB.	When the indoor fan motor is detected to be running at 300 rpm or lower
	2 time	82	Indoor heat exchanger sensor abnormal	Indoor heat exchanger sensor wire faulty. Poor connection.	When a temp of -28°C or lower is sensed cont. for 40 min during heating.
	4 time	84	Anti-condensation control	High humidity condition. Faulty humidity sensor.	Anti-condensation prevention control is operating.
	5 time	85	Anti-frost control	Indoor fan speed drops. Indoor heat exchanger sensor is faulty	When the anti-frost control operates and the compressor stops during cooling operation.
	6 time	86	Heating high pressure control	Heating overload operation. Indoor unit fan speed drops. Indoor heat exchanger sensor is short circuit.	When high pressure control operates during heating operation and the compressor stops.

RC-E5 OPERATION DATA

Operation data can be checked with remote control unit operation.

- ① Press the **CHECK** button.

The display change “**OPER DATA** ▼”

- ② Press the **(SET)** button while “**OPER DATA** ▼” is displayed.

- ③ When only one indoor unit is connected to remote controller, “**DATA LOADING**” is displayed (blinking indication during data loading).

Next, operation data of the indoor unit will be displayed. Skip to step ⑦.

- ④ When plural indoor units is connected, the smallest address number of indoor unit among all connected indoor unit is displayed.

[Example]:

“**SELECT I/U**” (blinking 1 seconds) → “**I/U000** ▲” blinking.

- ⑤ Select the indoor unit number you would like to have data displayed with the **▲ ▼** button.

- ⑥ Determine the indoor unit number with the **(SET)** button.

(The indoor unit number changes from blinking indication to continuous indication)

“**I/U000**” (The address of selected indoor unit is blinking for 2 seconds.)



“**DATA LOADING**” (A blinking indication appears while data loaded.)

Next, the operation data of the indoor unit is indicated.

- ⑦ Upon operation of the **▲ ▼** button, the current operation data is displayed in order from data number 01.

The items displayed are in the above table.

*Depending on models, the items that do not have corresponding data are not displayed.

- ⑧ To display the data of a different indoor unit, press the **AIR CON NO.** button, which allows you to go back to the indoor unit selection screen.

- ⑨ Pressing the **ON/OFF** button will stop displaying data.

Pressing the **(RESET)** button during remote control unit operation will undo your last operation and allow you to go back to the previous screen.

⊙If two (2) remote controllers are connected to one (1) inside unit, only the master controller is available for trial operation and confirmation of operation data. (The slave remote controller is not available.)

●Details of Compressor protection status No. 33

No.	Contents of display	In case of FDC100-140 refer to
"0"	Normal	
"1"	Discharge pipe temperature protection control	P.25, (6).(a).1
"2"	Discharge pipe temperature anomaly	P.25, (6).(a).2
"3"	Current safe control of inverter primary current	P.27, (6).(g)
"4"	High pressure protection control	P.25, (6).(b).1), P.26, (6).(c).1)
"5"	High pressure anomaly	P.25, (6).(b).2)
"6"	Low pressure protection control	P.26, (6).(c).1)
"7"	Low pressure anomaly	P.26, (6).(c).2)
"8"	Anti-frost prevention control	P.27, (6).(k)
"9"	Current cut	P.27, (6).(g)
"10"	Power transistor protection control	P.27, (6).(h)
"11"	Power transistor anomaly (Overheat)	P.27, (6).(i)
"12"	Compression ratio control	P.26, (6).(f)
"13"	Spare	
"14"	Dewing prevention control	P.28, (6).(l)
"15"	Current safe control of inverter secondary current	P.27, (6).(g)
"16"	Stop by compressor rotor lock	
"17"	Stop by compressor startup failure	P.28, (6).(q)

Number	Data Item
01	(Operation Mode)
02	SET TEMP. °C (Set Temperature)
03	RETURN AIR °C (Return Air Temperature)
04	SENSOR °C (Remote Controller Thermistor Temperature)
05	THI-R1 °C (Indoor Heat Exchanger Thermistor / U Bend)
06	THI-R2 °C (Indoor Heat Exchanger Thermistor /Capillary)
07	THI-R3 °C (Indoor Heat Exchanger Thermistor /Gas Header)
08	I/U FANSPEED (Indoor Unit Fan Speed)
09	DEMAND Hz (Frequency Requirements)
10	ANSWER Hz (Response Frequency)
11	I/U EEV P (Pulse of Indoor Unit Expansion Valve)
12	TOTAL I/U RUN H (Total Running Hours of The Indoor Unit)
21	OUTDOOR °C (Outdoor Air Temperature)
22	THO-R1 °C (Outdoor Heat Exchanger Thermistor)
23	THO-R2 °C (Outdoor Heat Exchanger Thermistor)
24	COMP Hz (Compressor Frequency)
25	HP MPa (High Pressure)
26	LP MPa (Low Pressure)
27	Td °C (Discharge Pipe Temperature)
28	COMP BOTTOM °C (Comp Bottom Temperature)
29	CT AMP (Current)
30	TARGET SH °C (Target Super Heat)
31	SH °C (Super Heat)
32	TDSH °C (Discharge Pipe Super Heat)
33	PROTECTION No. (Protection State No. of The Compressor)
34	O/U FANSPEED (Outdoor Unit Fan Speed)
35	63H1 (63H1 On/Off)
36	DEFROST (Defrost Control On/Off)
37	TOTAL COMP RUN H (Total Running Hours of The Compressor)
38	O/U EEV1 P (Pulse of The Outdoor Unit Expansion Valve EEV1)
39	O/U EEV2 P (Pulse of The Outdoor Unit Expansion Valve EEV2)

Note(1) Operation data display on the remote controller.

•Data is displayed until canceling the protection control.

•In case of multiple protections controlled, only the younger No. is displayed.

Note(2) Common item.

① In heating mode.

During protection control by the command signal for reducing compressor frequency from indoor unit, No. "4" is displayed.

② In cooling and dehumidifying mode.

During protection control by the command signal for reducing compressor frequency from indoor unit, No. "8" is displayed.



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