SERVICE SUPPORT HANDBOOK

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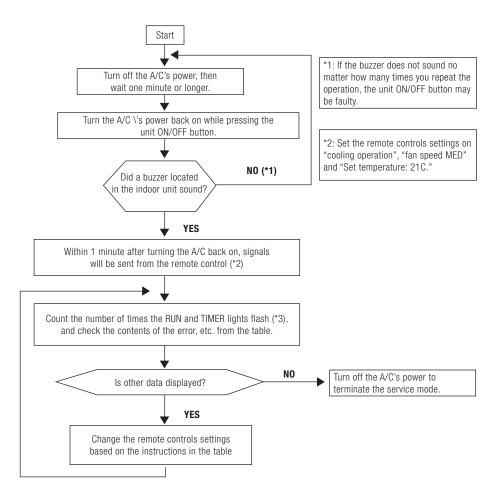


TYPE	PRE CHARGED	MAX LENGTH	VERTICAL F	PIPE LENGTH	ADDITIONAL	PIPE SIZE
11112	LENGTH	WAX LLNUTTI	O/D ABOVE	I/D ABOVE	CHARGE	FIFE SIZE
SRC10CHV	(R22) 7.5m	15m	5m	5m	10g/m	1/4 & 3/8
SRC20ZG	15m	15m	10m	10m	N/A	1/4 & 3/8
SRC25ZG	15m	15m	10m	10m	N/A	1/4 & 3/8
SRC35ZG	15m	15m	10m	10m	N/A	1/4 & 3/8
SRC20ZIX	15m	15m	10m	10m	N/A	1/4 & 3/8
SRC25ZIX	15m	15m	10m	10m	N/A	1/4 & 3/8
SRC35ZIX	15m	15m	10m	10m	N/A	1/4 & 3/8
SRC40ZIX	15m	30m	20m	20m	20g/m	1/4 & 1/2
SRC50ZIX	15m	30m	20m	20m	20g/m	1/4 & 1/2
SRC60ZIX	15m	30m	20m	20m	20g/m	1/4 & 1/2
SRC40ZHX	15m	30m	20m	20m	20g/m	1/4 & 1/2
SRC50ZHX	15m	30m	20m	20m	20g/m	1/4 & 1/2
SRC60ZHX	15m	30m	20m	20m	20g/m	1/4 & 1/2
SRC63ZE	15m	30m	20m	20m	25g/m	1/4 & 5/8
SRC71ZE	15m	30m	20m	20m	25g/m	1/4 & 5/8
SRC80ZE	15m	30m	20m	20m	25g/m	1/4 & 5/8
SCM40ZG	30m	30m	15m	15m	N/A	1/4 & 3/8
SCM45ZG	20m	30m	15m	15m	20g/m	1/4 & 3/8
SCM48ZG	40m	40m	15m	15m	N/A	1/4 & 3/8
SCM60ZG	30m	40m	15m	15m	20g/m	1/4 & 3/8
SCM80ZG	40m	70m	20m	20m	20g/m	1/4 & 3/8
FDCVA151	30m	40m	30m	15m	20g/m	1/4 & 1/2
FDCVA201	30m	40m	30m	15m	20g/m	1/4 & 1/2
FDCVA251	30m	40m	30m	15m	20g/m	1/4 & 5/8
FDCVA302	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDCVA402	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDCVA502	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDCVA602	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDCVA802	30m	70m	30m	15m	60g/m	3/8 & 1"
FDCVA1002	30m	70m	30m	15m	120g/m	1/2 & 1"
FDC71VN	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDC100VN	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDC125VN	30m	50m	30m	15m	60g/m	3/8 & 5/8
FDC140VN	30m	50m	30m	15m	60g/m	3/8 & 5/8

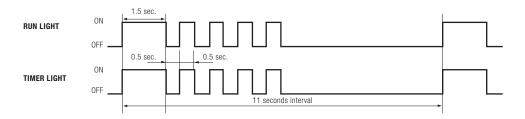
PRESSURE / TEMERATURE CHART									
°C	•	VAPOUR)	°C		/APOUR)				
-	КРА	PSI	-	КРА	PSI				
-50.0	10.6	1.5	6.0	859.8	124.7				
-48.0	21.9	3.2	8.0	922.8	133.8				
-46.0	34.3	5.0	10.0	985.4	142.9				
-44.0	47.5	6.9	12.0	1050.9	152.4				
-42.0	61.8	9.0	14.0	1119.2	162.3				
-40.0	77.1	11.2	16.0	1190.7	172.7				
-38.0	93.5	13.6	18.0	1265.2	183.5				
-36.0	111.1	16.1	20.0	1342.9	194.8				
-34.0	139.9	20.3	22.0	1423.9	206.5				
-32.0	149.9	21.7	24.0	1502.3	217.9				
-30.0	171.5	24.9	26.0	1589.8	230.6				
-28.0	194.3	28.2	28.0	1680.8	243.8				
-26.0	218.6	31.7	30.0	1775.5	257.5				
-24.0	244.4	35.4	32.0	1873.9	271.8				
-22.0	271.7	39.4	34.0	1976.2	286.6				
-20.0	300.8	43.6	36.0	2082.4	302.0				
-18.0	331.5	48.1	38.0	2192.7	318.0				
-16.0	363.9	52.8	40.0	2307.1	334.6				
-14.0	398.4	57.8	42.0	2425.7	351.8				
-12.0	434.7	63.1	44.0	2548.7	369.7				
-10.0	472.9	68.6	46.0	2676.1	388.1				
-8.0	513.3	74.4	48.0	2808.1	407.3				
-6.0	555.8	80.6	50.0	2944.8	427.1				
-4.0	600.5	87.1	52.0	3086.3	447.6				
-2.0	647.5	93.9	54.0	3232.7	468.9				
0.0	696.8	101.1	56.0	3384.1	490.8				
2.0	748.6	108.6	58.0	3540.7	513.5				
4.0	802.9	116.5	60.0	3702.5	537.0				

	INVERTER RAC (SRK SERIES) BASIC ERROR CODES									
INDOOR	DISPLAY	WIRED	FAULT	CAUSE						
RUN	TIMER	R/C								
ON	1	E42	Current Cut	Compressor locking, open phase on compressor output, short circuit on power transistor, closed service valve, EEV not opening						
ON	2	E59	Trouble of outdoor unit	Broken compressor wire, broken power transistor, broken discharge sensor wire/poor connection, compressor blockage						
ON	3	E58	Current safe stop	Overload protection, over charged, compressor locking						
ON	4	E51	Power Transistor error	Faulty power transistor						
ON	5	E36	Over heat of compressor	Low on gas, faulty discharge pipe senor, closed service valve						
ON	6	E3, E5	Error of signal transmission	Defective power supply, broken signal wire, faulty indoor/outdoor P.C.B.						
ON	7	E48	Faulty outdoor fan motor	Faulty condenser fan motor, poor connection						
ON	Flashing	E35	Cooling High Pressure Protection	Overload protection, over charged, broken outdoor heat exchanger sensor wire, closed service valve						
1	ON	-	Heat exchanger sensor error	Broken heat exchanger sensor wire, poor connection						
2	ON	E7	Room temperature sensor	Broken room temperature sensor wire, poor connection						
3	ON	-	Heat exchanger sensor 3 error (ZXH ZIX)	Broken heat exchanger sensor 3 wire, poor connection						
5	ON	E47	Active Filter voltage error	Defective Active Filter, incorrect power supply						
6	ON	E16	Indoor fan motor error	Fault indoor fan motor, poor connection						
Flashing	1	E38	Outdoor air temperature sensor	Broken sensor wire, poor connection						
Flashing	2	E37	Outdoor heat exchanger sensor	Broken sensor wire, poor connection						
Flashing	4	E39	Discharge pipe sensor	Broken sensor wire, poor connection						
2	2	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.						

INVERTER RAC MULTI (SCM SERIES) BASIC ERROR CODES								
INDOOR	DISPLAY	0/D	WIRED	FAULT	CAUSE			
RUN	TIMER	LED	R/C					
ON	1	1	E42	Current Cut	Compressor locking, open phase on compressor out put, 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 senor, 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	0FF	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.			



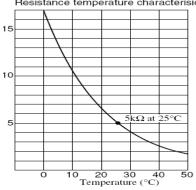
(*3) To Count the number of flashes in the service mode, count the number of flashes after the light lights up for 1.5 sec initially (start signal). Do not count start signal.

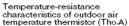


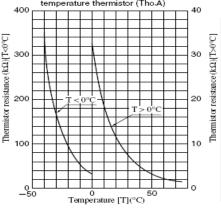
♦ Discharge pipe sensor temperature characteristics

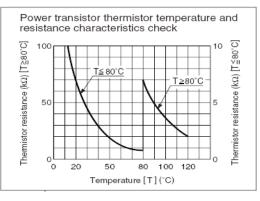
Temperature (°C)	Resistance (kΩ)	Temperature (°C)	Resistance (kΩ)
0	164	70	8.7
5	127	75	7.3
10	99	80	6.2
15	78	85	5.3
20	62	90	4.5
25	50	95	3.9
30	40	100	3.3
35	32	105	2.9
40	26	110	2.5
45	21	115	2.2
50	17	120	1.9
55	14	125	1.6
60	12	130	1.4
65	10	135	1.3

Return air thermistor (Thi-A) Indoor unit heat exchanger thermistor (Thi-R1, R2) Resistance temperature characterisics









Resistance-temperature characteristic of remote controller thermister

Temperrature(°C)	Resistance value $(k\Omega)$	Temperrature(℃)	Resistance value $(k\Omega)$	Temperrature(°C)	Resistance value $(k\Omega)$	Temperrature(°C)	Resistance value $(k\Omega)$
0	65	14	33	30	16	46	8.5
1	62	16	30	32	15	48	7.8
2	59	18	27	34	14	50	7.3
4	53	20	25	36	13	52	6.7
6	48	22	23	38	12	54	6.3
8	44	24	21	40	11	56	5.8
10	40	26	19	42	9.9	58	5.4
12	36	28	18	44	9.2	60	5.0

Customer				Indoor Model No			
Date of investig	nation			Indoor Serial No			
Date of investig	,			Outdoor Model No			
Customers Com	nplaint						
				Outdoor Serial No			
	te control sett		Content of displayed data	Display results			Display content
Temperature	Operation	Fan Speed		Buzzer (Yes/No.)	RUN Light (Times)	TIMER Light (Times)	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1
		MED	Error code on previous occasion.				
	Cooling	HI	Room temperature sensor temperature on previous occasion.				
01		AUT0	Indoor heat exchanger sensor 1 temperature on previous occasion.				
21		LO MED	Remote control information on previous occasion. Outdoor air temperature sensor temperature on previous occasion.				
	Heating	HI	Outdoor heat exchanger sensor temperature on previous occasion. Outdoor heat exchanger sensor temperature on previous occasion.				
		AUTO	Discharge pipe sensor temperature on previous occasion.				
26	Cooling	AUTO	Indoor heat exchanger sensor 3 temperature on previous occasion.				
20	Cooling	MED	Error code on second previous occasion.				
	Cooling	HI	Room temperature sensor temperature on second previous occasion.				
	Cooming	AUTO	Indoor heat exchanger sensor 1 temperature on second previous occasion.				
22		LO	Remote control information on second previous occasion.				
		MED	Outdoor air temperature sensor temperature on second previous occasion.				
	Heating	HI	Outdoor heat exchanger sensor temperature on second previous occasion.				
		AUTO	Discharge pipe sensor temperature on second previous occasion.				
27	Cooling	AUTO	Indoor heat exchanger sensor 3 temperature on second occasion.				
		MED	Error code on third previous occasion.				
	Cooling	HI	Room temperature sensor temperature on third previous occasion.				
	_	AUT0	Indoor heat exchanger sensor 1 temperature on third previous occasion.				
23		LO	Remote control information on third previous occasion.				
	Heating	MED	Outdoor air temperature sensor temperature on third previous occasion.				
		HI	Outdoor heat exchanger sensor temperature on third previous occasion.				
		AUT0	Discharge pipe sensor temperature on third previous occasion.				
28	Cooling	AUT0	Indoor heat exchanger sensor 3 temperature on third occasion.				
	Cooling	MED	Error code on fourth previous occasion.				
		HI	Room temperature sensor temperature on fourth previous occasion.				
		AUT0	Indoor heat exchanger sensor 1 temperature on fourth previous occasion.				
24		LO	Remote control information on fourth previous occasion.				
	Heating	MED	Outdoor air temperature sensor temperature on fourth previous occasion.				
	· ·	HI	Outdoor heat exchanger sensor temperature on fourth previous occasion.				
00	0 11	AUTO	Discharge pipe sensor temperature on fourth previous occasion.				
29	Cooling	AUTO MED	Indoor heat exchanger sensor 3 temperature on fouth occasion. Error code on fifth previous occasion.				
	Cooling	HI	Room temperature sensor temperature on fifth previous occasion.				
	Cooling	AUTO	Indoor heat exchanger sensor 1 temperature on fifth previous occasion.				
25		LO	Remote control information on fifth previous occasion.				
20		MED	Outdoor air temperature sensor temperature on fifth previous occasion.				
	Heating	HI	Outdoor heat exchanger sensor temperature on fifth previous occasion.				
		AUTO	Discharge pipe sensor temperature on fifth previous occasion.				
30	Cooling	AUTO	Indoor heat exchanger sensor 3 temperature on fifth occasion.				
21	ccomig	7.0.0	Stop code on previous occasion.				
22			Stop code on second previous occasion.				
23			Stop code on third previous occasion.				
24			Stop code on fourth previous occasion.				
25	Cooling	LO	Stop code on fifth previous occasion.				
26	Cooling	LU	Stop code on sixth previous occasion.				
27			Stop code on seventh previous occasion.				
28			Stop code on eighth previous occasion.				
29			Stop code on ninth previous occasion.				
30			Stop code on tenth previous occasion.				
Judgment							
Remarks							

	Error & Stop code table									
			SRK	(**ZD, SRK**ZE, SRK						
	ishes in Stop or ice mode Error			or content	Cours	Occurrence conditions				
Run	Timer	Error code	Major Category	Minor Category	Cause	Occurrence conditions				
	1 time flash	11		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 flash	12		Lower than 20 rps	phase, EEV faulty	After the compressor starts, it stops due to current cut at less than 20 rps				
1 time flash	3 time flash	13	Current Cut	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 flash	14		Excessive voltage (DC 350V)	Outdoor PCB faulty, Power supply abnormal	When the DC voltage (DC 280V) exceeds 350V				
	5 time flash	15		Short circuit in power transistor (high side)	Outdoor PCB faulty, power transistor damaged	When it is judged that the power transistor was damaged				
	6 time flash	16		Current cut circuit breakdown	Outdoor PCB faulty, power transistor damaged	at the time the compressor started				
	1 time flash	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 flash	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				
2 time flash	3 time flash	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 flash	29		Voltage drop	Power supply is faulty. Outdoor PCB is faulty	When the power supply voltage drops during operation.				
	7 time flash	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.				
	1 time flash	31		Cooling current safe 1		When there is a current safe stop in current safe mode 1 mode during cooling operation				
3	2 time flash	32	Current Safe	Heating current safe 1	Overcharge.	When there is a current safe stop in current safe mode 1 mode during heating operation				
time flash	3 time flash	33		Cooling current safe 2	Compressor lock	When there is a current safe stop in current safe mode 2 mode during cooling operation				
	4 time flash	34		Heating current safe 2		When there is a current safe stop in current safe mode 2 mode during heating operation				

					op code table , SRK**ZG, SRK**ZGX		
Flasi	hes in	Stop or		or content	, one zu, one zux		
	e mode Timer	Error	Major Category	Minor Category Cause		Occurrence conditions	
	5 time flash	35		Cooling current safe 3		When there is a current safe stop in current safe mode 3 mode during cooling operation	
3 time flash	6 time flash	36	Current Safe	Heating current safe 3	Overcharge. Compressor lock	When there is a current safe stop in current safe mode 3 mode during heating operation	
	7 time flash	37		Heating current safe 3 + 3A		When there is a current safe stop in current safe mode 3 + 3A mode during heating operation	
	1 time flash	41		Cooling overload 1 (outdoor temp 36~40*C)		When there is a current safe stop in overload 1 mode during cooling operation	
	2 time flash	42		Heating overload 1 (outdoor temp 5~12*C)	Overcharge. - Compressor lock. Overload operation	When there is a current safe stop in overload 1 mode during heating operation	
	3 time flash	43	Current	Cooling overload 2 (outdoor temp 40~45*C)		When there is a current safe stop in overload 2 mode during cooling operation	
flash	4 time flash	44	Safe	Heating overload 2 (outdoor temp 12~17*C)		When there is a current safe stop in overload 2 mode during heating operation	
	5 time flash	45		Cooling overload 3 (outdoor temp 45*C~)		When there is a current safe stop in overload 3 mode during cooling operation	
	6 time flash	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	
flash	1 time flash	51	Power transistor overheat	110*C	Cooling problem	When power transistor temp exceeds setting value (compressor stops).	
	OFF	60		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	
6 time flash	1 time flash	61	Serial signal error	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 flash	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 & Stop code table SRK**ZD, SRK**ZE, SRK**ZG, SRK**ZGX										
Elachor	s in service	T		D, SRK**ZE, SRK**ZG, rror content	SRK**ZGX						
	node	Stop or	Major		Cause	Occurrence conditions					
Run	Timer	Error code	Category	Minor Category							
	1 time flash	71		Less than 16 rps	Compressor faulty. Compressor output is open phase. EEV is faulty. Overload	After the compressor starts, when it stops at less than 16 rps due to rotor lock					
	2 time flash	72		16 rps or higher	operation. Outdoor unit PCB is faulty.	When the comp stops at 16rps or higher due to rotor lock					
7 time flash	3 time flash	73	Rotor lock	Phase switching defects (U phase)							
Hasii	4 time flash	74		Phase switching defects (V phase)	Compressor is faulty.	When compressor start fails 42 times in					
	5 time flash	75		Phase switching defects (W phase or cant distinguish)	Compressor wiring is faulty. Outdoor unit PCB is faulty	succession and the reason for the final					
	6 time flash	76		Comp software start (within 4 sec after phase switching)		failure is rotor lock.					
	OFF	80		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 flash	81	Protective control	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 Orps or higher cont. for 9 min.					
	2 time flash	82		control	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)				
8 time flash	3 time flash	83			control	control		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 flash	84		Anti -condensation control	High humidity. Faulty humidity sensor	Anti-condensation prevention control is operating					
	5 time flash	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 flash	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 flash	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 flash	88		Refrigeration cycle system protective control	Service valve closed. Short of gas.	When refrigerant cycle system protective control operates.					

Error & Stop code table SRK**ZHX, SRK**ZIX, SRF**ZIX											
	hes in e mode Timer	Stop or Error code	Error content	Cause	Occurrence conditions						
OFF	5 time flash	5	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						
	5 time flash	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 flash	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.						
3 time flash	7 time flash	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 flash	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 flash	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 Orps or higher for 10 min. (the comp stops)						
	2 time flash	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.						
4 time flash	7 time flash	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 flash	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.						
5 time	1 time flash	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.						
flash	7 time flash	57	Refrigeration cycle system protective control	Service valve closed. Short of gas.	When the refrigeration cycle protective control operates						

	Error & Stop code table									
			SRK**ZHX, SRK**ZIX, SRF**ZIX	(
110001100	service mode	Stop or	Error content	Cause	Occurrence					
Run	Timer	Error code			conditions					
	8 time flash	58	Current safe	Refrigerant is overcharged. Compressor locked. Overload operation.	When there is a current safe during operation.					
5 time flash	9 time flash	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.					
	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.					
6 time flash	1 time flash	61	Connection lines between the indoor & outdoor are faulty.	Connection line are 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 flash	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.					
	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 flash	82	Indoor heat exchanger sensor abnormal	Indoor hest exchanger sensor wire faulty. Poor connection.	When a temp of -28*C or lower is sensed cont. for 40 min during heating.					
8 time	4 time flash	84	Anti-condensation control	High humidity condition. Faulty humidity sensor.	Anti-condensation prevention control is operating.					
114511	5 time flash	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 flash	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.					

is operation and the compressor stops.

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	Stop data									
F	Remote control setting	Displayed data								
Operation switching	Fan speed switching	Temperature setting	Displayed data							
		21	Displays the stop code the previous time when the A/C was stopped by protective control.							
		22	2 times previous							
		23	3 times previous							
	LO	24	4 times previous							
Cooling		25	5 times previous							
Cooling		26	6 times previous							
		27	7 times previous							
			28	8 times previous						
		29	9 times previous							
		30	10 times previous							

	nger sensor (THoR) Table										UNIT:
Buzzer sound (minus)	RUN light (10's digit) TIMER light (1's digit)	- 0	1	2	3	4	5	6	7	8	oC 9
(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
Yes (sounds for	3	-30	-31	-32	-33	-34	-35	-36	-37	-38	-39
0.1 second)	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
	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
No	4	40	41	42	43	44	45	46	47	48	49
(does not sound)	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
Discharge pipe tem	perature table (THoD)										
											UNIT: oC
Buzzer sound (minus)	RUN Light (10's digit) TIMER Light (1's digit)	0	1	2	3	4	5	6	7	8	9
	3	-60	-62	-64							
Yes	2	-40	-42	-44	-46	-48	-50	-52	-54	-56	-58
(sounds for 0.1 second)	1	-20	-22	-24	-26	-28	-30	-32	-34	-36	-38
	0		-2	-4	-6	-8	-10	-12	-14	-16	-18
	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
No	3	60	62	64	66	68	70	72	74	76	78
(does not sound)	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				

INVERTER PAC (FD SERIES) INDOOR FAULT CODES								
France Code	Indoor	PCB LEDs	Outdoor	r unit LEDs	Description of fault Possible Cause			
Error Code	RED	GREEN (1)	RED	GREEN (1)	Description of fault	Possible Gause		
	Off	Flashing	Off	Flashing	-	Normal Operation		
No Error	Off	Off	2	Off	Indoor unit power supply	Power OFF, broken wire, blown fuse, broken transformer wire		
Code	0	Floobing	Off		Remote controller wires	Poor or wrong connection, broken wire		
	3	Flashing	Off	Flashing	Remote controller	Faulty Remote controller		
"WAIT" or	Off	Floobing	2	Floobing	Communication error (indoor-outdoor)	Faulty interconnect wiring, faulty PCB		
OFF	UII	Flashing	Ζ	Flashing	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		
	2	Flashing	2	Flashing	Indoor - Outdoor communication fault	Poor connection, incorrect wiring, indoor or outdoor PCB		
FF	2	Flashing	Off	Flashing	Electrical Noise	CPU Runaway on Outdoor control PCB		
E5					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		
E28	Off	Flashing	Off	Flashing	Remote Controller temp sensor	Faulty Remote controller temp sensor		

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INVERTER PAC (FD SERIES) OUTDOOR FAULT CODES								
Error Code	Indoo	r PCB LEDs	Outdoo	or unit LEDs	Description of fault	Descible Course		
Error Code	RED	GREEN (1)	RED	GREEN (1)	Description of fault	Possible Cause		
E33	Off	Flashing	1	Flashing	Power supply	Anomalous current on inverter primary side		
E34	Off	Flashing	1	Flashing	Power supply	Phase open circuit, faulty outdoor control PCB (3 Phase model)		
E35	Off	Flashing	1	Flashing	Outdoor heat exchanger thermistor	Overheat of condenser, faulty thermistor, faulty outdoor PCB		
E36	Off	Flashing	1	Flashing	Discharge pipe thermistor	High discharge temp, faulty sensor, faulty outdoor control PCB		
E37	Off	Flashing	1	Flashing	Outdoor heat exchanger thermistor	poor connection, broken wire, faulty thermistor, faulty PCB		
E38	Off	Flashing	1	Flashing	Outdoor ambient air sensor	Poor connection, broken wire, faulty thermistor, faulty PCB		
E39	Off	Flashing	1	Flashing	Discharge pipe thermistor	poor connection, broken wire, faulty thermistor, faulty PCB		
E40	Off	Flashing	1	Flashing	High Pressure Error	Activation of HP switch (63H1), closed service valve, faulty PCB (63H1 Circuit)		
E41	Off	Flashing	1	Flashing	Power Transistor overheat	short circuit of air flow, faulty Inverter PCB		
E42	Off	Flashing	1	Flashing	Current Cut	Closed service valve, faulty outdoor control PCB		
E45	Off	Flashing	1	Flashing	Communication Error - Inverter to Control PCBs	Poor Connection, faulty control or inverter PCBs		
E47	Off	Flashing	1	Flashing	Control PCB, Power transistor	Anomalous inverter over voltage		
E48	Off	Flashing	1	Flashing	Condenser fan motor	Faulty fan motor or outdoor PCB		
E49	Off	Flashing	1	Flashing	Low Pressure Error	Closed service valve, short of gas, faulty LP sensor, faulty outdoor control PCB		
E51	Off	Flashing	1	Flashing	Inverter Error	Faulty Inverter PCB		
E53	Off	Flashing	1	Flashing	Suction pipe thermistor	poor connection, broken wire, faulty thermistor, faulty PCB		
E54	Off	Flashing	1	Flashing	Low Pressure Sensor Error	Closed service valve, short of gas, faulty LP sensor, faulty outdoor control PCB		
E55	Off	Flashing	1	Flashing	Under-dome temp thermistor	poor connection, broken wire, faulty thermistor, faulty PCB		
E57	Off	Flashing	1	Flashing	Low Pressure Error	Insufficient refrigerant		
E59	Off	Flashing	5	Flashing	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		

RC-E1 & F	RC-E3 OPERATIONAL SERVICE DATA				
RC-E1		RC-E3	RC-E3		
01	OPERATION MODE SYMBOL	01	OPERATION MODE SYMBOL		
02	SET TEMP	02	SET TEMP		
03	RETURN AIR TEMP (THIA)	03	RETURN AIR TEMP (THIA)		
04	I/U HEAT EXCHANGER 1 TEMP	04	REMOTE CONTROL TEMP		
05	I/U HEAT EXCHANGER 2 TEMP	05	I/U HEAT EXCHANGER 1 TEMP		
07	I/U FAN SPEED	06	I/U HEAT EXCHANGER 2 TEMP		
08	REQUEST FREQUENCY	07	I/U HEAT EXCHANGER 3 TEMP		
0	RESPONSE FREQUENCY	08	I/U FAN SPEED		
10	EXP VALVE OPEN PULSE	09	DEMAND FREQUENCY		
11	TOTAL I/U RUN HOURS	10	ANSWER FREQUENCY		
21	OUTDOOR TEMP (THoA)	11	INDOOR EEV PULSE		
22	O/U HEAT EXCHANGER 1 TEMP	12	TOTAL I/U RUN HOURS		
23	O/U HEAT EXCHANGER 2 TEMP	21	OUTDOOR TEMP (THoA)		
24	COMPRESSOR Hz	22	O/U HEAT EXCHANGER 1 TEMP		
25	HIGH PRESSURE	23	O/U HEAT EXCHANGER 2 TEMP		
26	LOW PRESSURE	24	COMPRESSOR Hz		
27	DISCHARGE TEMP (THoD)	25	HIGH PRESSURE		
28	DOME TEMP (THoC)	26	LOW PRESSURE		
29	CT (AMPS)	27	DISCHARGE TEMP (THoD)		
31	O/U FAN SPEED	28	DOME TEMP (THoC)		
32	SILENT MODE STATUS	29	CT (AMPS)		
34	63H1 STATUS	30	TAREGT SUPERHEAT		
35	DEFROST STATUS	31	SUPERHEAT		
36	TOTAL COMPRESSOR RUN HOURS	32	DISCHARGE PIPE SUPERHEAT		
37	EEV 1 PULSE	33	COMPRESSOR PROTECTION No		
38	EEV 2 PULSE	34	O/U FAN SPEED		
		35	63H1 STATUS		
		36	DEFROST STATUS		
		37	TOTAL COMPRESSOR RUN HOURS		
		38	EEV 1 PULSE		
		39	EEV 2 PULSE		
NOTE: SON	ME DATA IS NOT AVAILABLE FOR ALL MODEL	TYPES			

			SETTING OPTIONS			
Function		R Setting	C-E1 -			
No	Function Description	Options	Comment			
		INVALAD				
01	GRILL LIFT SET	50Hz AREA	For FDT FILTER PANEL			
		60Hz AREA				
02	AUTO MODE SET	AUTO RUN ON	ALLOWS AUTO CHANGEOVER MODE (PAC & KXR ONLY)			
02	AUTO MODE SET	AUTO RUN OFF	ALLOWS AUTO CHANGEOVER WODE (LAG & IXAR ONE)			
03	TEMPERATURE SWITCH	VALID	 LOCKS TEMPERATURE SWITCH INPUT			
	TEIWII EITATOTIE OWITOTI	INVALAD	20010 TENNI ENVIOUE OWN OF THE			
04	MODE SWITCH	VALID	 - LOCKS MODE SWITCH INPUT			
04	WOODE SWITCH	INVALAD	EOGKS WIGHT IN OT			
05	ON / OFF SWITCH	VALID	LOCKS ON/OFF SWITCH INPUT			
03	ON / OIT SWITCH	INVALAD	LOCKS ON/OTT SWITCH INFO			
06	FAN SPEED SWITCH	VALID	 LOCKS FAN SPEED SWITCH INPUT			
00	TAN SI LLD SWITCH	INVALAD	LOCKS TAIN SI LED SWITGHTINI OT			
07	LOUVER SWITCH	VALID	 LOCKS LOUVER SWITCH INPUT			
07	LOUVEN SWITCH	INVALAD	LOCKS LOUVEN SWITCH INFUT			
08	TIMER SWITCH	VALID	LOCKS TIMER SWITCH INPUT			
00	THIVIEN SWITCH	INVALAD	LUCKS HIVEN SWITCH INFUT			
09	CENCOD CWITCH	SENSOR OFF	REMOTE CONTROL SENSOR OPTION			
09	SENSOR SWITCH	SENSOR ON	neimore control senson of hon			
10	POWER FAILURE	VALID	POWER RE-START OPTION AFTER POWER FAILURE			
10		INVALAD	TOWER RE-START OF HOW AFTER FOWER FAILURE			
		NO VENTI				
11	VENT SWITCH	VENTI LINK SET	FOR INTERLOCKING OF OUTSIDE AIR CONTROL (CNT / CND)			
		NO VENTI LINK				
12	TEMP RANGE SET	DISP CHANGE	PRESENTS SETTING VIEW DIFFERENTLY TO OPERATOR			
12	TEIVII HANGE SET	NO DISPLAY CHANG	THESENTS SETTING VIEW BITTERENTER TO STERIATOR			
		3 FAN SPEEDS				
13	I/U FAN SPEED	2 FAN SPEEDS	AVAILABLE FAN SPEED SWITCH SETTINGS			
		1 FAN SPEED				
14	MODEL TYPE	HEAT PUMP	FOR DEFINING MODE/ MODEL TYPE			
14	WIODEL TIPE	COOL ONLY	TON DEFINING MODEL MODEL THE			
15	EXTERNAL CONTROL SET	INDIVIDUAL OPERAT	CnT CONTROL OF SINGLE OR MULTI FCU CONNECTED TO A			
10	LATERINAL CUNTRUL SET	SAME OPERATION	SINGLE RC			
16	EDDOD DICDLAY CET	ERROR DISPAY	- ERROR MESSAGE DISPLAYED ON WALL CONTROL			
10	ERROR DISPLAY SET	NO ERROR DISPLAY	LINION WESSAGE DISPLATED ON WALL CONTROL			
17	I OUVED DOCUTION	FIX 1-4	ODTION TO STOR LOUIVER IN 1.4 POSITION OR AUTO			
17	LOUVER POSITION	IN MOTION	OPTION TO STOP LOUVER IN 1-4 POSITION OR AUTO			
10	o C / E SETTING	о С	TEMPERATURE SCALE			
18	o C / F SETTING	o F	TEMPERATURE SCALE			

Function		1	C-E3		
No	Function Description	Setting Options	Comment		
		INVALAD			
01	GRILL LIFT SET	50Hz AREA	For FDT FILTER PANEL		
		60Hz AREA			
02	AUTO MODE SET	VALID	ALLOWS AUTO CHANGEOVER MODE (PAC & KXR ONLY)		
02	71010 MODE GET	INVALID	TREE WO TO TO STANDED VEH MODE (THO GIVEN SHELL)		
03	TEMPERATURE SWITCH	VALID	LOCKS TEMPERATURE SWITCH INPUT		
00	TEMILETITIONE OWN ON	INVALID	EUONO TEMILETATIONE OWN OF THE OT		
04	MODE SWITCH	VALID	LOCKS MODE SWITCH INPUT		
	mose om on	INVALID	Econo most om or		
05	ON / OFF SWITCH	VALID	LOCKS ON/OFF SWITCH INPUT		
00	0117 0111 01111011	INVALID	ECONO ON OTT OWN OTT IN OT		
06	FAN SPEED SWITCH	VALID	LOCKS FAN SPEED SWITCH INPUT		
00	TAIN OF EED OWNTON	INVALID	ECONO FAIN OF EED OWN OF HIM OF		
07	LOUVER SWITCH	VALID	LOCKS LOUVER SWITCH INPUT		
07	LOUVEN SWITCH	INVALID	EUGRO EUGVEN SWITCH IN UT		
08	TIMER SWITCH	VALID	LOCKS TIMER SWITCH INPUT		
00	HIVEN SWITCH	INVALID	- LOCKS TIMEN SWITCH INFOT		
		SENSOR OFF	Remote thermistor is not working.		
09	SENSOR SET	SENSOR ON	Remote thermistor is working.		
		SENSOR + 30C	Remote thermistor is working, and to be set for producing +3.0°C increase in temperature.		
		SENSOR + 20C	Remote thermistor is working, and to be set for producing +2.0°C increase in temperature.		
		SENSOR + 1oC	Remote thermistor is working, and to be set for producing +1.0°C increase in temperature. Remote thermistor is working, and to be set for producing -1.0°C		
		SENSOR - 1oC	increase in temperature. Remote thermistor is working, and to be set for producing -1.0 C increase in temperature.		
		SENSOR - 20C	increase in temperature. Remote thermistor is working, and to be set for producing -2.0 °C Remote thermistor is working, and to be set for producing -3.0 °C		
		SENSOR - 2oC	increase in temperature.		
10	AUTO RESTART	VALID	POWER RE-START OPTION AFTER POWER FAILURE		
10	AUTU NESTANT	INVALID	TOWER RE-START OF HOW AFTER FOWER FAILURE		
		NO VENTI			
11	VENT SWITCH	VENTI LINK SET	FOR INTERLOCKING OF OUTSIDE AIR CONTROL (CNT / CND)		
		NO VENTI LINK			
12	TEMP RANGE SET	DISP CHANGE	DDEGENIO GETTING WENT DIFFERENTLY TO ODERATOR		
12	TEMP KANGE SET	NO DISPLAY CHANG	PRESENTS SETTING VIEW DIFFERENTLY TO OPERATOR		
		HI - MED - LO			
40	I/II FAN ODEED	HI - LO	REMOTE CONTROLLER WILL SELECT AND DISPLAY THE SET FAN SPEE		
13	I/U FAN SPEED	HI - MED	SELECTION OPTIONS		
		1 FAN SPEED			
4.4	I OUNTED DOOLTION	4 POSITION STOP	IF FUNTION 4 IS VALID, LOUVER CAN BE LOCK IN 4 POSITIONS OR ANY		
14	LOUVER POSITION	FREE STOP	POSITION		
		HEAT PUMP			
15	MODEL TYPE	COOL ONLY	FOR DEFINING MODE/ MODEL TYPE		
		INDIVIDUAL OPERAT	FOR CnT SCHEDULING OF SINGLE OR ALL INDOOR UNITS LINKED TO A		
16	EXTERNAL CONTROL SET	SAME OPERATION	SINGLE REMOTE CONTROLLER		
		INDICATION OFF	INDOOR UNIT SENSOR TEMP CAN BE DISPLAYED ON RC INSTEAD OF		
17	ROOM TEMP INDICATION SET	INDICATION ON	AIRFLOW		
		INDICATION ON			
18	INDICATION	INDICATION OFF	HEATING "HOT KEEP" HAND DISPLAY		
		o C			
19	o C / F SETTING	0 F	TEMPERATURE SCALE		

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	TROUBLE SHOTTING THE REFRIGERATION SYSTEM							
Indication			Pressure					
System	Extra Low	Low	Normal	High	Extra High	Cause of Trouble		
High Side					•	Excessive overcharging of refrigerant		
Low Side					•	2) Mixture of non condensables		
High Side	•					1) Ineffective compression - Compressor		
Low Side					•	2) By pass valve open		
High Side						1) Insufficient Refrigerant / Gas Leak / Blockage		
Low Side	•					2) Indoor Filter blocked/ Indoor Fan		
High Side					•	1) Outdoor Fan Motor / Blocked Outdoor heat exchanger		
Low Side				-		2) Mixture of non condensables / High Ambient Temp		
High Side				•		4) High ladest Deer town with the		
Low Side					•	- 1) High Indoor Room temperature		