



SERVICE Manual

Multi FREE-Match
DC-Inverter

HCKU 565 X2R

HCKU 805 X3R

HCKU 855 X4R



Sommario

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Part 1
General Information

1. Model Names of Indoor/Outdoor Units

1.1 Indoor Units

Model name	Dimension (mm)	Net/Gross weight (kg)	Power supply
HKEU 265 XR	Width: 795 Height: 270 Depth: 165	10/11.5	220~240V-1ph-50Hz
HKEU 355 XR	Width: 845 Height: 286 Depth: 165	10.5/12	220~240V-1ph-50Hz
HFIU 205 XR	Width:700 Height:600 Depth:210	13/18	220~240V-1ph-50Hz
HFIU 265 XR	Width:700 Height:600 Depth:210	13/18	220~240V-1ph-50Hz
HFIU 355 XR	Width:700 Height:600 Depth:210	15/20	220~240V-1ph-50Hz
HFIU 535 XR	Width:700 Height:600 Depth:210	15/20	220~240V-1ph-50Hz

1.2 Outdoor Units

Model name	Dimension (mm)	Net/Gross weight (kg)	Power supply
HCKU 565 X2R	Width: 940 Height: 375 Depth: 755	61/65	220~240V-1ph-50Hz
HCKU 805 X3R	Width: 940 Height: 375 Depth: 755	68/72	220~240V-1ph-50Hz
HCKU 855 X4R	Width: 968 Height: 858 Depth: 355	80/84	220~240V-1ph-50Hz

2. External Appearance

Indoor units:

Wall-mounted



Console



Outdoor units:
HCKU 565 X2R



HCKU 805 X3R



HCKU 855 X4R



3. Combination of Indoor Units

You can choose different style indoor units: wall-mounted type, console type.

3.1 HCKU 565 X2R

COOLING																	
		Combinations				Nominal Cooling Capacity (kW)				Total Cooling Capacity			Power Input (kW)			EER	ENERGY LABEL
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	min.	std.	max.	min.	std.	max.	(W/W)	
		A	B	C	D	A	B	C	D								
HCKU 565 X2R	BI (1x1)	205	—	—	—	2,05	—	—	—	1,03	2,05	3,08	0,25	0,64	0,83	3,20	A
		265	—	—	—	2,64	—	—	—	1,03	2,64	3,56	0,35	0,81	1,08	3,26	A
		355	—	—	—	3,52	—	—	—	1,48	3,52	4,71	0,47	1,11	1,52	3,17	B
	BI (1x2)	205	205	—	—	2,05	2,05	—	—	1,56	4,1	5,42	0,48	1,23	1,6	3,33	A
		205	265	—	—	2,05	2,64	—	—	1,78	4,69	6,24	0,56	1,43	1,93	3,28	A
		205	355	—	—	2,04	3,5	—	—	1,61	5,54	6,92	0,54	1,67	2,23	3,32	A
		265	265	—	—	2,64	2,64	—	—	1,95	5,28	6,23	0,59	1,59	2,01	3,32	A
		265	355	—	—	2,37	3,17	—	—	2,33	5,6	6,65	0,71	1,64	2,24	3,41	A
		355	355	—	—	2,77	2,77	—	—	1,94	5,6	6,48	0,68	1,64	2,35	3,41	A

HEATING																	
		Combinations				Nominal Heating Capacity (kW)				Total Heating Capacity			Power Input (kW)			EER	ENERGY LABEL
		Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	min.	std.	max.	min.	std.	max.	(W/W)	
		A	B	C	D	A	B	C	D								
HCKU 565 X2R	BI (1x1)	205	—	—	—	2,49	—	—	—	1	2,49	3,24	0,26	0,68	0,88	3,66	A
		265	—	—	—	3,08	—	—	—	1,08	3,08	4,09	0,34	0,82	1,1	3,76	A
		355	—	—	—	3,96	—	—	—	1,5	3,96	4,99	0,46	1,09	1,52	3,63	A
	BI (1x2)	205	205	—	—	2,49	2,49	—	—	1,4	4,98	6,88	0,5	1,35	1,75	3,69	A
		205	265	—	—	2,49	3,08	—	—	1,84	5,57	6,63	0,58	1,49	2	3,74	A
		205	355	—	—	2,35	3,75	—	—	2,03	6,1	7,85	0,6	1,69	2,25	3,61	A
		265	265	—	—	3,08	3,08	—	—	2,34	6,15	7,7	0,6	1,63	2,08	3,77	A
		265	355	—	—	3,08	3,97	—	—	2,66	6,98	7,98	0,73	1,84	2,42	3,79	A
		355	355	—	—	3,6	3,6	—	—	2,28	7,2	8,42	0,75	2	2,67	3,60	B

3.2 HCKU 805 X3R

COOLING																	
	Combinations				Nominal Cooling Capacity (kW)				Total Cooling Capacity			Power Input (kW)			EER	ENERGY LABEL	
	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	min.	std.	max.	min.	std.	max.			(W/W)
	A	B	C	D	A	B	C	D									
HCKU 805 X3R	TRI (1x1)	205	—	—	—	2,05	—	—	—	0,86	2,05	2,91	0,25	0,63	0,89	3,25	A
		265	—	—	—	2,64	—	—	—	1,06	2,64	3,48	0,34	0,81	1,06	3,26	A
		355	—	—	—	3,52	—	—	—	1,13	3,52	4,75	0,38	1,09	1,48	3,23	A
	TRI (1x2)	205	205	—	—	2,05	2,05	—	—	1,48	4,1	5,4	0,48	1,27	1,68	3,23	A
		205	265	—	—	2,05	2,64	—	—	1,59	4,69	6,21	0,52	1,44	1,92	3,26	A
		205	355	—	—	2,05	3,52	—	—	2,28	5,57	7,3	0,68	1,71	2,25	3,26	A
		265	265	—	—	2,64	2,64	—	—	1,69	5,28	6,96	0,55	1,62	2,22	3,26	A
		265	355	—	—	2,64	3,52	—	—	2,4	6,16	8	0,76	1,96	2,72	3,14	B
	TRI (1x3)	355	355	—	—	3,52	3,52	—	—	2,74	7,04	9,14	0,86	2,21	2,94	3,19	B
		205	205	205	—	2,05	2,05	2,05	—	1,78	6,15	7,58	0,63	1,9	2,43	3,24	A
		205	205	265	—	2,05	2,05	2,64	—	2,56	6,74	9,03	0,79	2,04	2,76	3,30	A
		205	205	355	—	2,05	2,05	3,52	—	2,67	7,62	10,17	0,89	2,36	3,16	3,23	A
		205	265	265	—	2,05	2,64	2,64	—	3,1	7,33	10,11	0,87	2,48	3,42	2,96	C
		205	265	355	—	2,01	2,57	3,42	—	2,42	8	9,82	0,78	2,27	3,06	3,52	A
		205	355	355	—	1,8	3,1	3,1	—	2,77	8	10,6	0,93	2,49	3,63	3,21	A
		265	265	265	—	2,64	2,64	2,64	—	2,77	7,92	10,4	0,83	2,4	3,25	3,30	A
	265	265	355	—	2,4	2,4	3,2	—	3,18	8	11,09	1,05	2,54	3,58	3,15	B	

HEATING																	
	Combinations				Nominal Heating Capacity (kW)				Total Heating Capacity			Power Input (kW)			EER	ENERGY LABEL	
	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	min.	std.	max.	min.	std.	max.			(W/W)
	A	B	C	D	A	B	C	D									
HCKU 805 X3R	TRI (1x1)	205	—	—	—	2,49	—	—	—	0,95	2,49	3,16	0,27	0,67	0,94	3,72	A
		265	—	—	—	3,08	—	—	—	1,08	3,08	4,22	0,35	0,84	1,1	3,67	A
		355	—	—	—	3,96	—	—	—	1,5	3,96	5,3	0,37	1,07	1,44	3,70	A
	TRI (1x2)	205	205	—	—	2,49	2,49	—	—	2,14	4,98	6,38	0,51	1,35	1,79	3,69	A
		205	265	—	—	2,49	3,08	—	—	2,12	5,57	7,41	0,55	1,53	2,04	3,64	A
		205	355	—	—	2,49	3,96	—	—	2,56	6,45	8,38	0,7	1,75	2,3	3,69	A
		265	265	—	—	3,08	3,08	—	—	2,34	6,15	8	0,56	1,65	2,26	3,73	A
		265	355	—	—	3,08	3,96	—	—	2,67	7,03	9,71	0,76	1,95	2,71	3,61	A
	TRI (1x3)	355	355	—	—	3,96	3,96	—	—	2,72	7,91	10,29	0,86	2,21	2,94	3,58	B
		205	205	205	—	2,49	2,49	2,49	—	2,84	7,47	9,27	0,67	2,04	2,59	3,66	A
		205	205	265	—	2,49	2,49	3,08	—	2,95	8,06	10,8	0,86	2,2	2,98	3,66	A
		205	205	355	—	2,49	2,49	3,96	—	3,19	8,94	11,62	0,93	2,35	3,31	3,80	A
		205	265	265	—	2,42	3,08	3,08	—	3,51	8,58	12,28	0,86	2,4	3,39	3,58	B
		205	265	355	—	2,49	3,08	3,56	—	3,19	9,13	11,24	0,83	2,42	3,26	3,77	A
		205	355	355	—	2,35	3,67	3,67	—	3,6	9,69	12,19	0,92	2,56	3,59	3,79	A
		265	265	265	—	3,26	3,26	3,26	—	3,32	9,8	12,37	0,88	2,5	3,41	3,92	A
	265	265	355	—	2,98	2,98	3,9	—	3,14	9,8	12,09	1,05	2,52	3,56	3,89	A	

3.3 HCKU 855 X4R

COOLING																	
	Combinations				Nominal Cooling Capacity (kW)				Total Cooling Capacity			Power Input (kW)			EER	ENERGY LABEL	
	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	min.	std.	max.	min.	std.	max.	(W/W)		
	A	B	C	D	A	B	C	D									
HCKU 855 X4R	QUA (1x1)	205	—	—	—	2,05	—	—	—	0,84	2,05	2,67	0,24	0,63	0,88	3,25	A
		265	—	—	—	2,64	—	—	—	1,01	2,64	3,43	0,3	0,77	1,06	3,43	A
		355	—	—	—	3,52	—	—	—	1,29	3,52	4,57	0,44	1,01	1,36	3,49	A
		535	—	—	—	5,28	—	—	—	2	5,28	6,86	0,6	1,63	2,16	3,24	A
	QUA (1x2)	205	205	—	—	2,05	2,05	—	—	1,64	4,1	5,33	0,46	1,18	1,67	3,47	A
		205	265	—	—	2,05	2,64	—	—	1,78	4,69	6,1	0,56	1,41	1,86	3,33	A
		205	355	—	—	2,05	3,52	—	—	2,16	5,57	7,24	0,64	1,71	2,23	3,26	A
		205	535	—	—	2,05	5,28	—	—	2,06	7,33	9,15	0,63	1,61	2,16	4,55	A
		265	265	—	—	2,64	2,64	—	—	1,83	5,28	8	0,63	1,91	2,64	2,76	D
		265	355	—	—	2,64	3,52	—	—	2,64	6,16	8	0,82	2,18	3,04	2,83	C
		265	535	—	—	2,64	5,28	—	—	2,78	7,92	8,57	0,84	2,23	2,94	3,55	A
		355	355	—	—	3,52	3,52	—	—	2,9	5,28	7,33	1,02	2,48	3,35	2,13	G
		355	535	—	—	3,26	5,24	—	—	3,26	8,5	9,62	1	2,57	3,42	3,31	A
	535	535	—	—	4,25	4,25	—	—	3,1	8,5	10,19	0,93	2,61	3,53	3,26	A	
	QUA (1x3)	205	205	205	—	2,05	2,05	2,05	—	2,49	6,15	9,42	0,65	1,86	2,55	3,31	A
		205	205	265	—	2,05	2,05	2,64	—	2,56	6,74	9,93	0,77	2,06	2,7	3,27	A
		205	205	355	—	2,05	2,05	3,52	—	2,52	7,62	9,14	0,92	2,35	3,18	3,24	A
		205	205	535	—	1,85	1,85	4,8	—	3,17	8,5	10,11	0,85	2,49	3,32	3,41	A
		205	265	265	—	2,05	2,64	2,64	—	2,6	7,33	9,78	0,9	2,46	3,35	2,98	C
		205	265	355	—	2,05	2,64	3,52	—	2,52	8,21	9,86	0,8	2,47	3,3	3,32	A
		205	265	535	—	1,85	2,34	4,02	—	3,07	8,21	9,16	0,79	2,3	3,16	3,57	A
		205	355	355	—	1,92	3,29	3,29	—	2,57	8,5	11,02	0,84	2,49	3,35	3,41	A
		205	355	535	—	1,54	2,64	3,97	—	3,17	8,15	10,27	0,95	2,56	3,56	3,18	B
		265	265	265	—	2,64	2,64	2,64	—	2,56	7,92	10,83	0,84	2,43	3,24	3,26	A
		265	265	355	—	2,55	2,55	3,4	—	2,62	8,5	9,94	0,92	2,54	3,52	3,35	A
		265	265	535	—	2,14	2,14	4,23	—	3,18	8,5	10,11	0,9	2,58	3,61	3,29	A
		265	355	355	—	2,32	3,09	3,09	—	2,83	8,5	11	0,98	2,53	3,38	3,36	A
		265	355	535	—	1,98	2,61	3,91	—	3,45	8,5	10,03	0,85	2,52	3,47	3,37	A
	355	355	355	—	2,83	2,83	2,83	—	3,07	8,5	11	1,16	2,58	3,48	3,29	A	
	QUA (1x4)	205	205	205	205	2,12	2,12	2,12	2,12	2,7	8,5	10,35	0,97	2,48	3,28	3,43	A
		205	205	205	265	2,07	2,07	2,07	2,29	2,84	8,5	10,27	0,95	2,5	3,41	3,40	A
		205	205	205	355	1,81	1,81	1,81	3,07	3,04	8,5	10,76	0,87	2,52	3,49	3,37	A
		205	205	205	535	1,54	1,54	1,54	3,88	3,61	8,5	10,92	0,94	2,49	3,34	3,41	A
		205	205	265	265	1,86	1,86	2,38	2,38	3,05	8,5	11	0,99	2,48	3,41	3,43	A
		205	205	265	355	1,71	1,71	2,18	2,88	3,19	8,5	11,17	0,95	2,52	3,5	3,37	A
		205	205	355	355	1,58	1,58	2,65	2,65	3,32	8,5	11,17	1,07	2,56	3,45	3,32	A
		205	265	265	265	1,76	2,24	2,24	2,24	3,17	8,5	11,09	0,92	2,51	3,43	3,39	A
		205	265	265	355	1,62	2,06	2,06	2,72	3,35	8,5	11,25	0,92	2,58	3,47	3,29	A
		205	265	355	355	1,51	1,91	2,53	2,53	3,71	8,5	11,17	0,9	2,61	3,6	3,26	A
		265	265	265	265	2,12	2,12	2,12	2,12	3,36	8,5	10,76	0,88	2,62	3,5	3,24	A
265		265	265	355	1,96	1,96	1,96	2,6	3,5	8,5	11	1,01	2,6	3,5	3,27	A	

HEATING																	
	Combinations				Nominal Heating Capacity (kW)				Total Heating Capacity			Power Input (kW)			EER	ENERGY LABEL	
	Unit	Unit	Unit	Unit	Unit	Unit	Unit	Unit	min.	std.	max.	min.	std.	max.	(W/W)		
	A	B	C	D	A	B	C	D									
HCKU 855 X4R	QUA (1x1)	205	—	—	—	2,49	—	—	—	0,97	2,49	3,29	0,25	0,66	0,92	3,77	A
		265	—	—	—	3,08	—	—	—	1,48	3,08	4	0,32	0,81	1,11	3,80	A
		355	—	—	—	3,96	—	—	—	1,7	3,96	5,28	0,46	1,07	1,44	3,70	A
		535	—	—	—	6,01	—	—	—	2,22	6,01	7,81	0,58	1,59	2,11	3,78	A
	QUA (1x2)	205	205	—	—	2,49	2,49	—	—	2,24	4,98	6,48	0,52	1,34	1,91	3,72	A
		205	265	—	—	2,49	3,08	—	—	1,84	5,57	7,6	0,61	1,52	2	3,66	A
		205	355	—	—	2,49	3,96	—	—	2,97	6,45	8,38	0,65	1,73	2,25	3,73	A
		205	535	—	—	2,49	5,98	—	—	2,34	8,47	8	0,64	2,28	2,2	3,71	A
		265	265	—	—	3,08	3,08	—	—	2,53	6,16	8,84	0,63	1,91	2,63	3,23	C
		265	355	—	—	3,08	3,96	—	—	2,61	7,04	10,56	0,78	2,07	2,88	3,40	B
		265	535	—	—	2,48	5,98	—	—	3,21	8,46	11,19	0,85	2,27	2,99	3,73	A
		355	355	—	—	3,96	3,96	—	—	3,21	7,92	10,97	0,94	2,29	3,09	3,46	B
		355	535	—	—	3,36	5,1	—	—	3,1	8,46	11,07	0,9	2,31	3,08	3,66	A
	535	535	—	—	4,23	4,23	—	—	3,28	8,46	11,16	0,83	2,32	3,13	3,65	A	
	QUA (1x3)	205	205	205	—	2,49	2,49	2,49	—	2,64	7,47	9,9	0,7	2,03	2,78	3,68	A
		205	205	265	—	2,49	2,49	3,08	—	2,77	8,06	10,67	0,79	2,1	2,77	3,84	A
		205	205	355	—	2,36	2,36	3,74	—	2,83	8,46	11,36	0,86	2,2	2,96	3,85	A
		205	205	535	—	1,92	1,92	4,62	—	3,42	8,46	12,77	0,8	2,34	3,12	3,62	A
		205	265	265	—	1,82	2,95	2,95	—	2,84	7,72	11,4	0,83	2,27	3,09	3,40	B
		205	265	355	—	2,21	2,73	3,51	—	2,88	8,45	12,09	0,75	2,3	3,07	3,67	A
		205	265	535	—	2,44	3,01	3,98	—	3,35	9,43	12,11	0,8	2,34	3,22	4,03	A
		205	355	355	—	2,02	3,22	3,22	—	2,95	8,46	12,18	0,76	2,27	3,05	3,73	A
		205	355	535	—	1,69	2,68	4,08	—	3,48	8,45	12,31	0,85	2,3	3,19	3,67	A
		265	265	265	—	2,82	2,82	2,82	—	2,91	8,46	12,21	0,79	2,29	3,06	3,69	A
		265	265	355	—	2,57	2,57	3,31	—	2,99	8,45	12,25	0,84	2,32	3,21	3,64	A
		265	265	535	—	2,14	2,14	4,17	—	3,49	8,45	12,43	0,84	2,41	3,37	3,51	B
		265	355	355	—	2,37	3,04	3,04	—	3,18	8,45	12,24	0,92	2,37	3,17	3,57	B
		265	355	535	—	2	2,56	3,89	—	3,78	8,45	12,28	0,81	2,4	3,3	3,52	B
		355	355	355	—	2,82	2,82	2,82	—	3,35	8,46	11,88	1,05	2,33	3,14	3,63	A
	QUA (1x4)	205	205	205	205	2,48	2,48	2,48	2,48	2,98	9,92	11,83	0,9	2,3	3,05	4,31	A
		205	205	205	265	2,45	2,45	2,45	2,56	3,11	9,91	11,87	0,88	2,32	3,16	4,27	A
		205	205	205	355	2,02	2,02	2,02	3,88	3,33	9,94	11,89	0,8	2,3	3,19	4,32	A
		205	205	205	535	1,98	1,98	1,98	4	3,93	9,94	12,13	0,88	2,33	3,13	4,27	A
		205	205	265	265	2,12	2,12	2,83	2,83	3,27	9,9	12,09	0,91	2,28	3,13	4,34	A
		205	205	265	355	2	2	2,45	3,4	3,48	9,85	12,31	0,86	2,3	3,18	4,28	A
		205	205	355	355	1,75	1,75	3,2	3,2	3,85	9,9	12,22	0,98	2,33	3,14	4,25	A
		205	265	265	265	2,02	2,6	2,6	2,6	3,46	9,82	12,24	0,85	2,35	3,17	4,18	A
		205	265	265	355	1,95	2,55	2,55	2,9	3,65	9,95	12,19	0,82	2,41	3,09	4,13	A
		205	265	355	355	1,85	2,45	2,8	2,8	4,09	9,9	12,38	0,81	2,4	3,22	4,13	A
		265	265	265	265	2,48	2,48	2,48	2,48	3,61	9,92	12,41	0,78	2,38	3,1	4,17	A
265	265	265	355	2,4	2,4	2,4	2,74	3,77	9,94	12,28	0,91	2,39	3,15	4,16	A		

4. Features

Hokkaido's DC multi air conditioner is new product series in Hokkaido brand.

- Adopt DC inverter compressor

All the outdoor units use DC inverter compressor, the efficiency is high, the EER is up to A class.

- Various styles indoor units

More than 6 different models indoor units can be chosen, including wall-mounted type, console type.

- Cooling in low temperature

The outdoor unit model HCKU 855 X4R can operate even in -15°C. This is standard with low ambient kit.

Part 2

Indoor Units

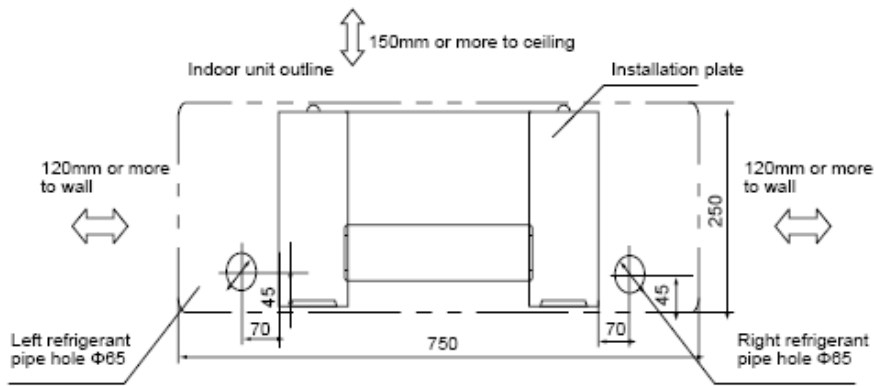
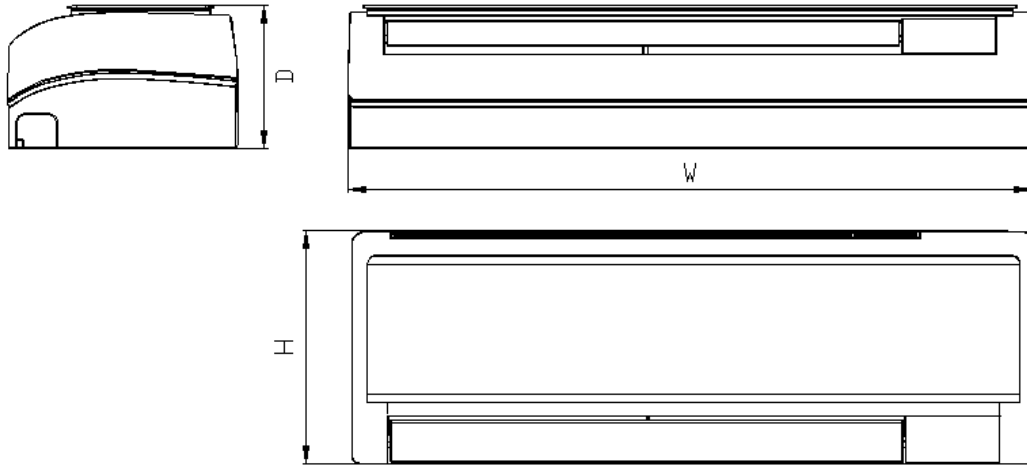
5. Wall-mounted Type

5.1 Specifications

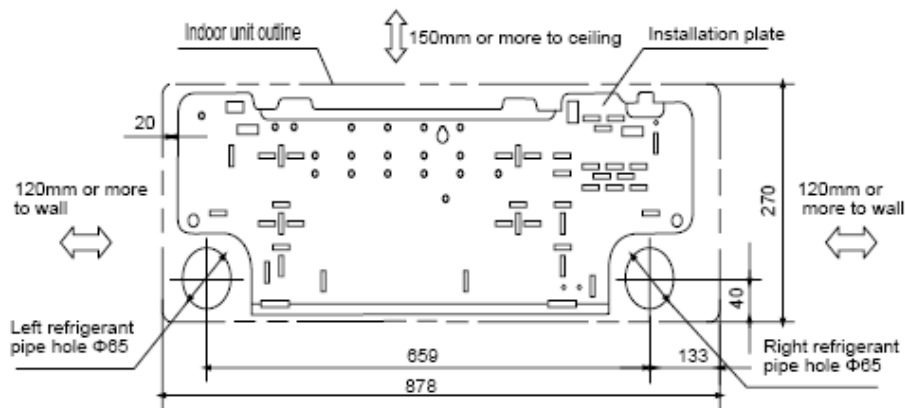
5.1.1 Wall series

Sale Model			HKEU 265 XR	HKEU 355 XR
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50
Supply electricity type			Outdoor unit supply power	
Cooling	Capacity	Btu/h	9000	12000
	Input	W	38	44
	Rated current	A	0.17	0.2
Heating	Capacity	Btu/h	10000	14000
	Input	W	38	44
	Rated current	A	0.17	0.2
Indoor fan motor	Model		RPG20D	RPG20D
	Type		AC motor	AC motor
	Brand		Welling	Welling
	Input	W	38	38
	Capacitor	uF	1.2	1.2
	Speed(hi/mi/lo)	r/min	1150/1000/850	1150/1000/850
Indoor coil	a.Number of rows		2	2
	b.Tube pitch(a)x row pitch(b)	mm	21×13.37	21×13.37
	c.Fin spacing	mm	1.3	1.3
	d.Fin type		Hydrophilic aluminium	Hydrophilic aluminium
	e.Tube outside dia.and type	mm	Φ7	Φ7
			Inner-groove tube	Inner-groove tube
	f.Coil length x height x width	mm	620 x 200 x 26.74	620 x 200 x 26.74
g.Number of circuits		2	2	
Indoor air flow (Hi/Mi/Lo)		m ³ /h	570/480/350	700/520/420
Indoor noise level (Hi/Mi/Lo)		dB(A)	39/34/29	39/34/29
Indoor unit	Dimension (W x H x D)	mm	795 x 270 x 165	845 x 286 x 165
	Packing (W x H x D)	mm	850 x 285 x 340	905 x 285 x 355
	Net/Gross weight	kg	10/11.5	10.5/12
Refrigerant Type			R410A	R410A
Refrigerant pipe	Liquid side/ Gas side	mm	Φ6.35/Φ9.53	Φ6.35/Φ12.7
Drainage water pipe diameter.		mm	Φ20	Φ17.5
Controller(standard)			R5114/BGE	R5114/BGE
Application area		m ²	12~15	12~15

5.2 Dimensions



(<12000Btu/h type)



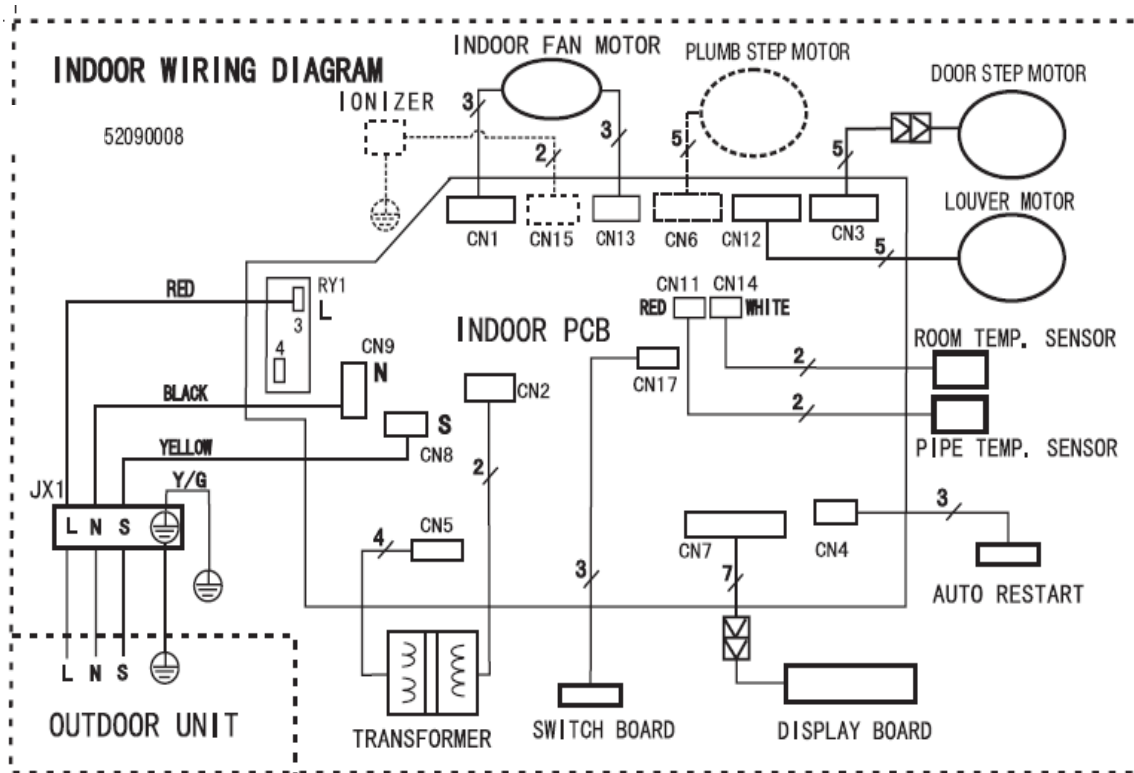
(≥ 12000 Btu/h type)

Unit: mm

Model \ Dimension	W	H	D
HKEU 265 XR	795	270	165
HKEU 355 XR	845	286	165

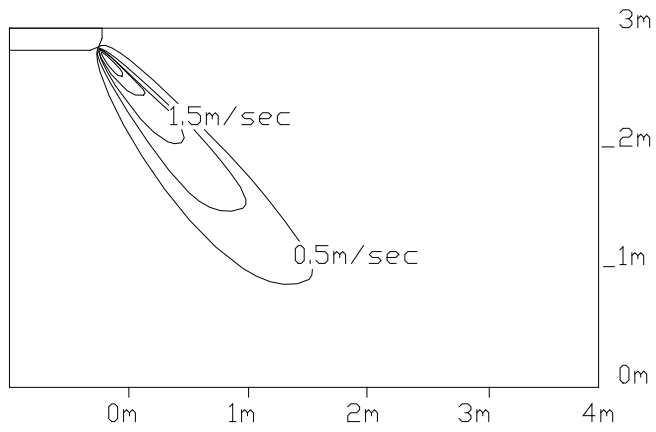
6. Wiring Diagrams

7.1 HKEU 265-355 XR

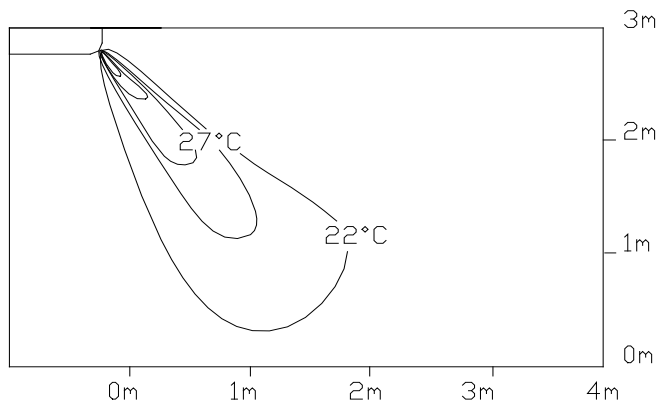


7. Air Velocity and Temperature Distributions

Airflow velocity



Temperature



8. Electric Characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min	Max	MCA	MFA	kW	FLA
HKEU 265 XR	50	220-240	198	254	0.21	16	0.02	0.17
HKEU 355 XR	50	220-240	198	254	0.25	16	0.02	0.17

Remark:

MCA: Min. Current Amps. (A)

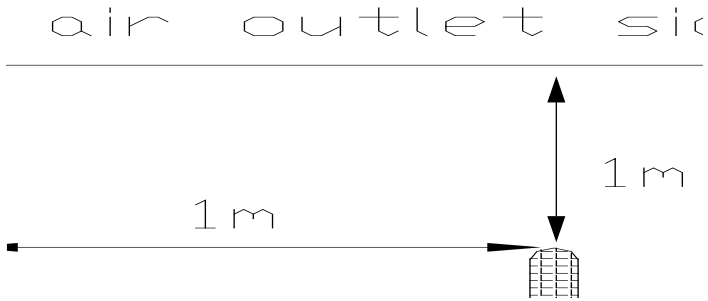
MFA: Max. Fuse Amps. (A)

KW: Fan Motor Rated Output (kW)

FLA: Full Load Amps. (A)

IFM: Indoor Fan Motor

9. Sound Levels



Model	Noise level dB(A)
	High speed
HKEU 265 XR	39
HKEU 355 XR	39

Console Type

10. Features

Consumes up to 30% less energy than non-inverter units

DC inverter compressor

Indoor fan motor adopts DC motor

Achieves set temperature more quickly

Air supplying from top and bottom or from top only

Air inlet from four directions



Compact unit body, space saving

This unit body is very thin and harmonious with room. It is beautiful, elegant and space saving. Lightweight and compact.

Flexible installation.

Can be used for floor standing or lower wall applications

As a floor standing floor model, it can be semi or fully recessed without loss of capacity.

High efficiency filter

Built in Formaldehyde nemesis filter

Active-carbon and biological anti-virus filter is optional.

Comfort

Flexible air blow: vertical auto swing and wide angle louvers ensure that warm air reaches the furthest corners of the room and increase the air flow coverage

Low noise operation, lowest to 23Db

Low starting power and precise room temperature adjustment

Powerful mode can be selected for rapid cooling or heating.

Easy cleaning grille and maintenance

Indoor unit adopts DC motor, it has five level fan speed meet different requirements.

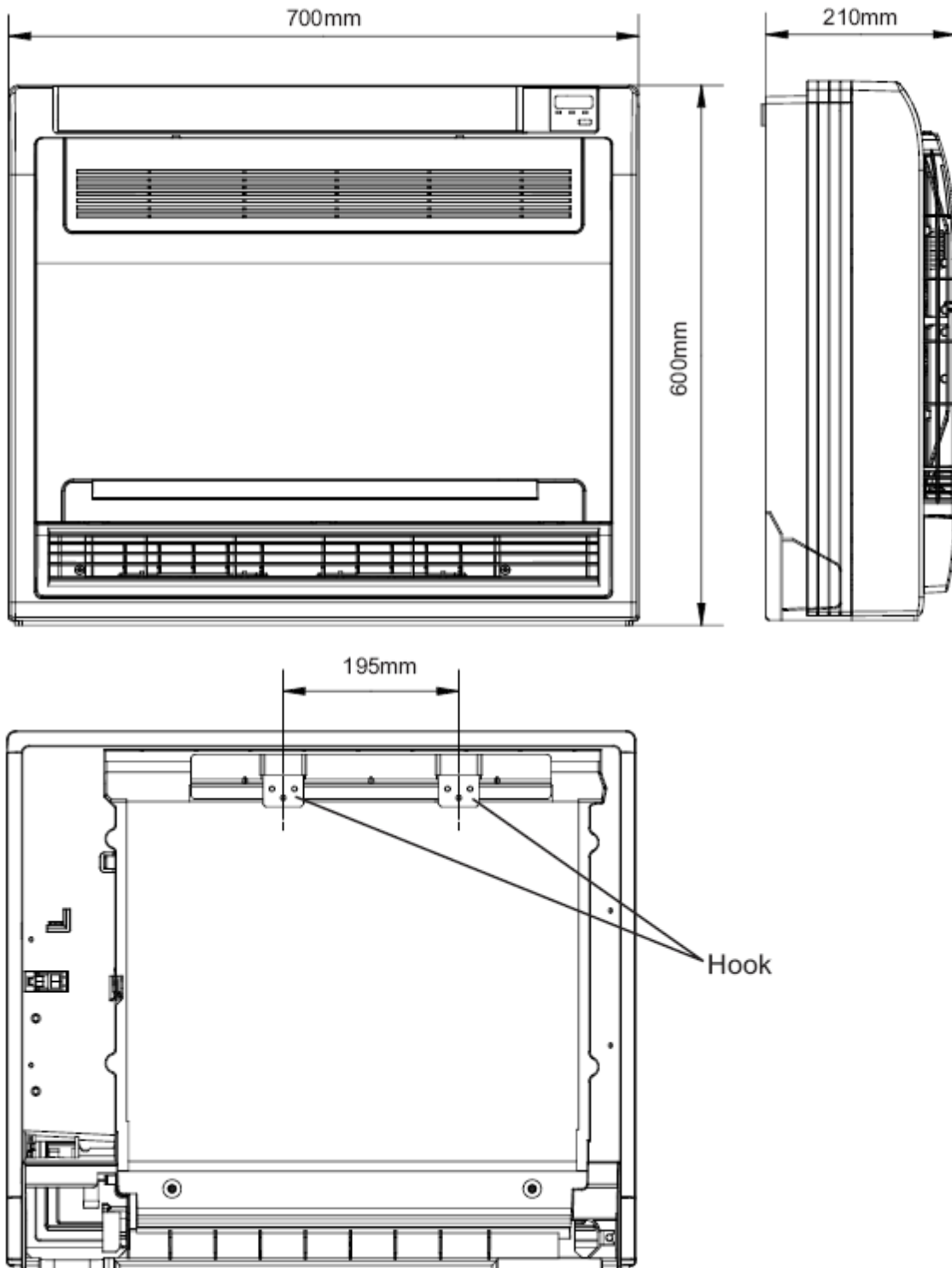
11. Specifications

Sale Model			HFIU 205 XR	HFIU 265 XR	
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50	
Cooling	Capacity	Btu/h	7000	9000	
	Input	W	30	30	
	Rated current	A	0.13	0.13	
Heating	Capacity	Btu/h	8000	10000	
	Input	W	30	30	
	Rated current	A	0.13	0.13	
Indoor fan motor	Model		RD-280-20-8A	RD-280-20-8A	
	Type		DC MOTOR	DC MOTOR	
	Brand		WELLING	WELLING	
	Input	w	42	42	
	Speed (Lo/ Mi/ Hi)	r/min	430/460/530/560/670	430/460/530/560/670	
Indoor coil	a.Number of rows		1	1	
	b.Tube pitch(a)x row pitch(b)	mm	13.37x21	13.37x21	
	c.Fin spacing	mm	1.3	1.3	
	d.Fin type (code)		Hydrophilic aluminum		
	e.Tube outside dia.and type	mm		Φ7	Φ7
				Inner groove tube	
	f.Coil length x height x width	mm	512x378x21	512x378x21	
g.Number of circuits		1	1		
Indoor air flow (Lo/ Mi/ Hi)		m ³ /h	330/380/460/500/550	330/380/460/500/550	
Sound level (sound pressure)		dB(A)	22/26/31/34/37	22/26/31/34/37	
Indoor unit	Dimension (W x H x D)	mm	700x600 x210	700x600 x210	
	Packing (W x H x D)	mm	810x710 x305	810x710 x305	
	Net/Gross weight	kg	13/18	13/18	
Refrigerant	Type		R410A	R410A	
Design pressure		MPa	4.2/2.0	4.2/2.0	
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.4/Φ12.7	Φ6.4/Φ12.7	
Connection wiring	Signal wiring	mm ²	4-core shielded wire 4x1.5		
Drainage water pipe dia.		mm	Φ16	Φ16	
Wireless remote controller			R51D/E (standard)		
Operation temp		°C	17~30		

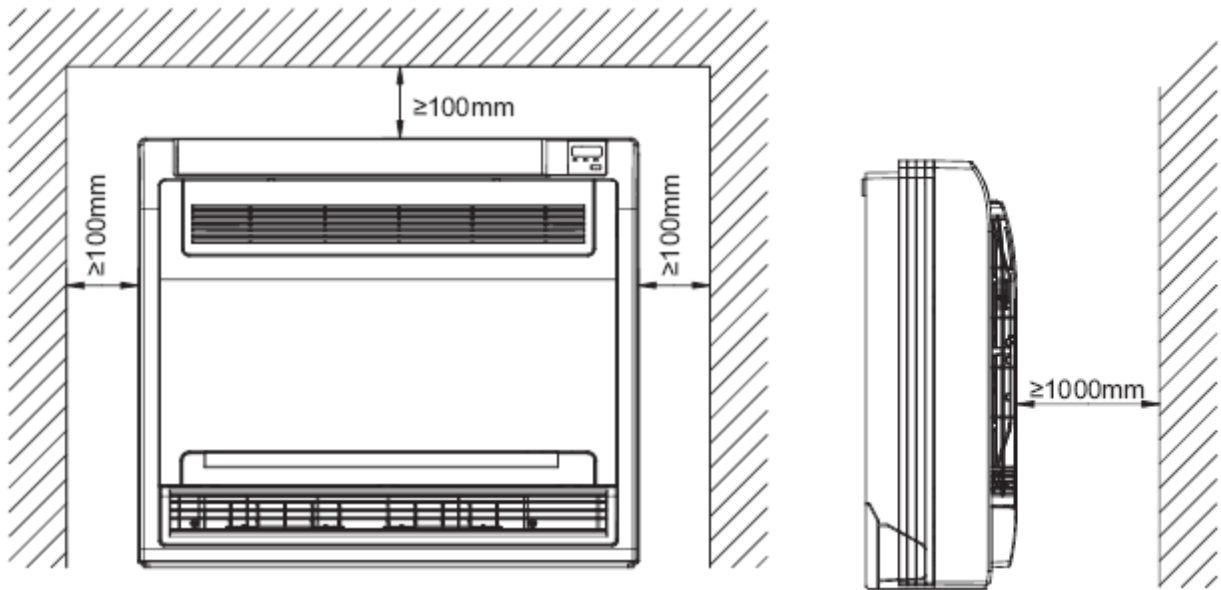
Sale Model			HFIU 355 XR	HFIU 535 XR
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50
Cooling	Capacity	Btu/h	12000	18000
	Input	W	30	50
	Rated current	A	0.13	0.22
Heating	Capacity	Btu/h	14000	20000
	Input	W	30	50
	Rated current	A	0.13	0.22
Indoor fan motor	Model		RD-280-20-8A	RD-280-20-8A
	Type		DC MOTOR	DC MOTOR
	Brand		WELLING	WELLING
	Input	w	42	42
	Speed(Lo/ Mi/ Hi)	r/min	420/460/560/610/680	530/680/780/840/890
Indoor coil	a.Number of rows		2	2
	b.Tube pitch(a)x row pitch(b)	mm	13.37x21	13.37x21
	c.Fin spacing	mm	1.3	1.3
	d.Fin type (code)		Hydrophilic aluminum	
	e.Tube outside dia.and type	mm	Φ7	
			Inner groove tube	
	f.Coil length x height x width	mm	512x378x42	512x378x42
	g.Number of circuits		2	2
Indoor air flow (Lo/ Mi/ Hi)		m ³ /h	350/380/460/490/550	440/560/640/700/740
Sound level (sound pressure)		dB(A)	23/27/32/34/37	28/31/33/36/39
Indoor unit	Dimension (W x H x D)	mm	700x600 x210	700x600 x210
	Packing (W x H x D)	mm	810x710 x305	810x710 x305
	Net/Gross weight	kg	15/20	15/20
Refrigerant	Type		R410A	R410A
Design pressure		MPa	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.4/Φ12.7	Φ6.4/Φ12.7
Connection wiring	Signal wiring	mm ²	4-core shielded wire 4x1.5	
Drainage water pipe dia.		mm	Φ16	Φ16
Wireless remote controller			R51D/E (standard)	
Operation temp		°C	17~30	

12. Dimensions

HFIU 205 XR、HFIU 265 XR、HFIU 355 XR、HFIU 535 XR

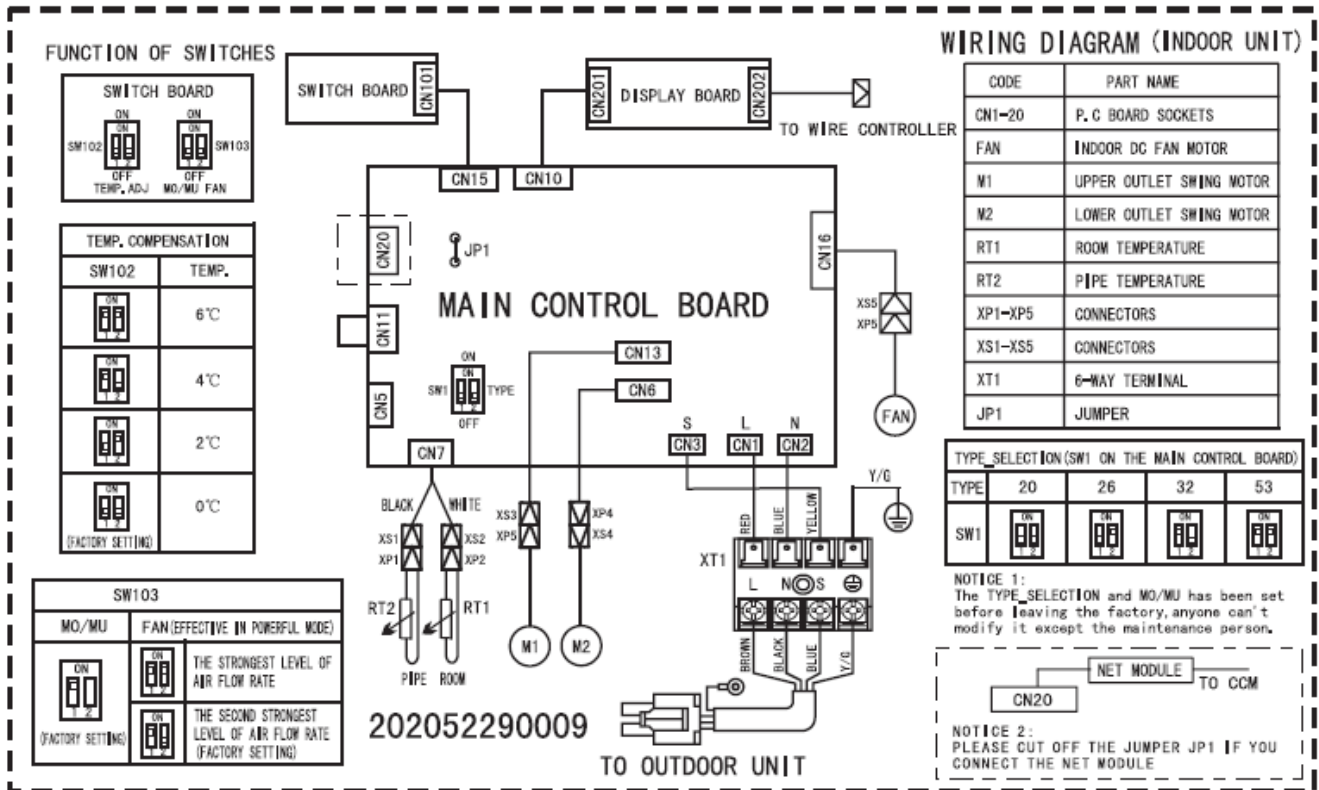


13. Service Space



14. Wiring Diagrams

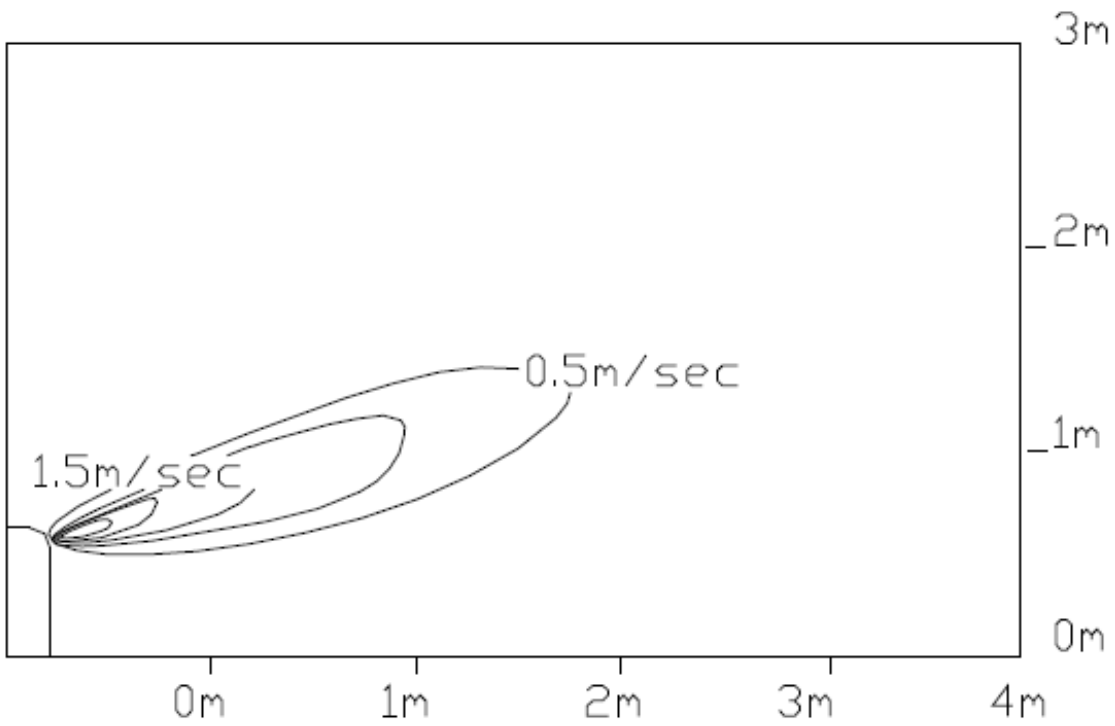
HFIU 205 XR、HFIU 265 XR、HFIU 355 XR、HFIU 535 XR



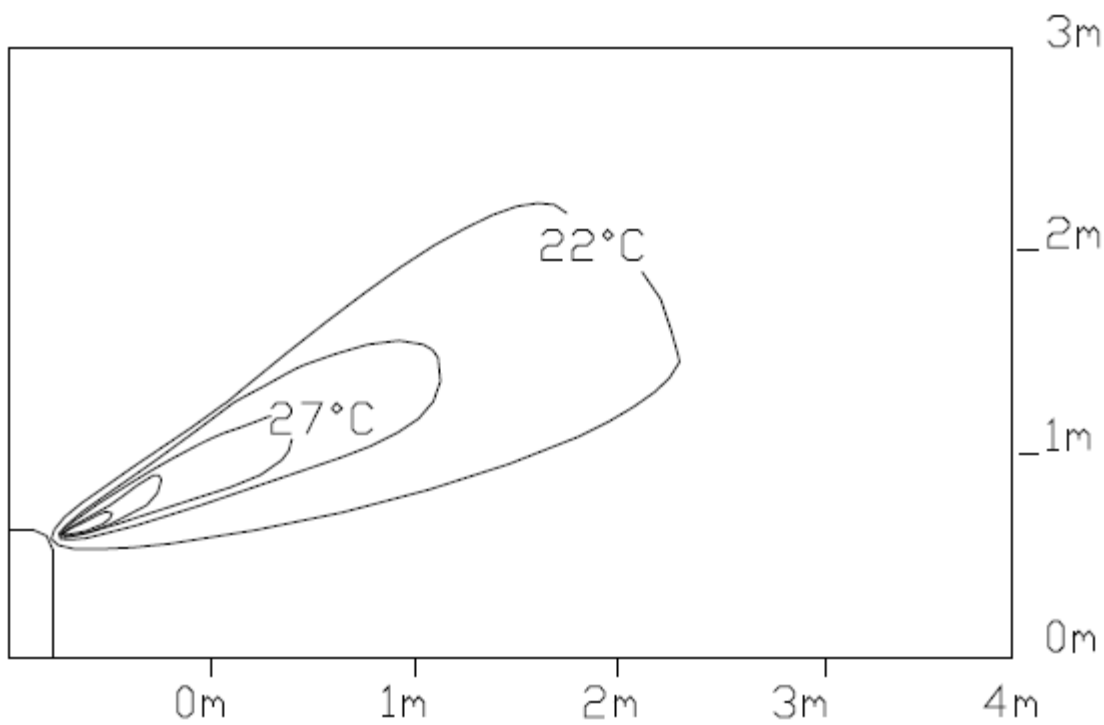
15. Air Velocity and Temperature Distributions

Discharge angle 60

Airflow velocity



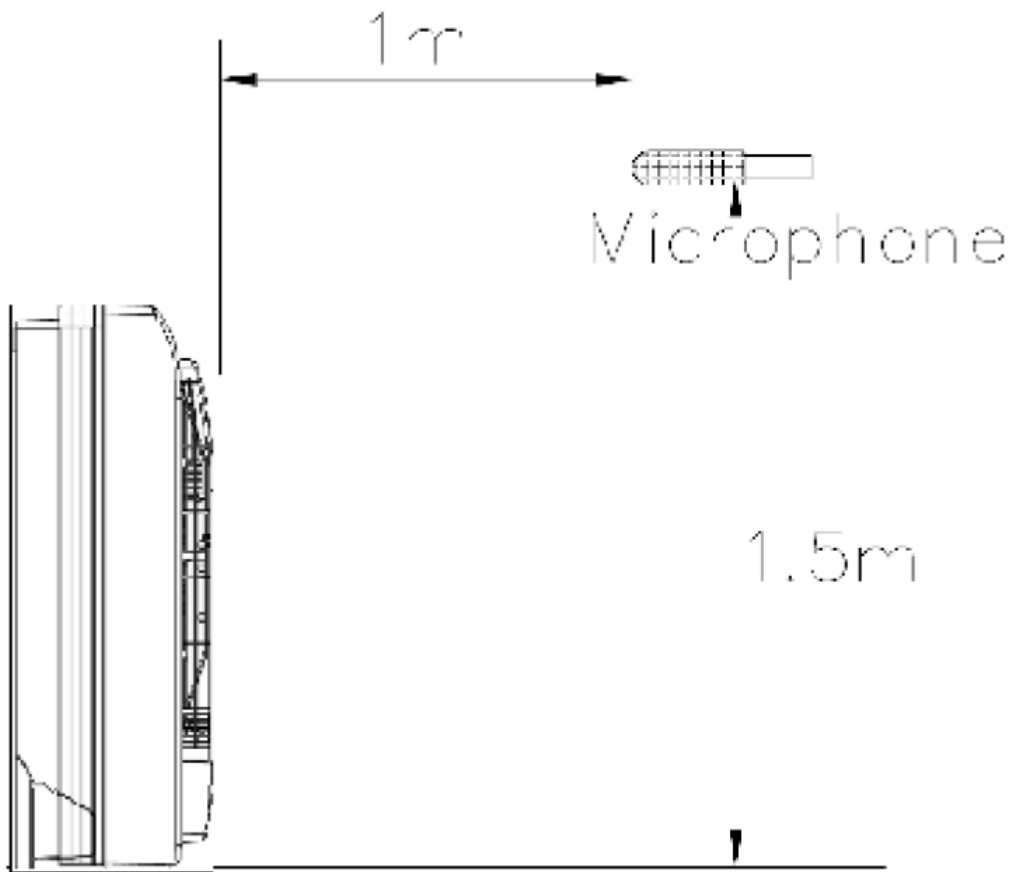
Temperature



16. Electric Characteristics

Model	Indoor Unit				Power Supply	IFM	
	Hz	Voltage	Min	Max	MFA	kW	FLA
HFIU 205 XR	50	220-240	198	254	15	0.042	0.14
HFIU 265 XR	50	220-240	198	254	15	0.042	0.14
HFIU 355 XR	50	220-240	198	254	15	0.042	0.14
HFIU 535 XR	50	220-240	198	254	15	0.042	0.14

17. Sound Levels



Model	Noise level dB(A)		
	H	M	L
HFIU 205 XR	31	26	22
HFIU 265 XR	31	26	22
HFIU 355 XR	32	27	24
HFIU 535 XR	33	31	28

Part 3

Outdoor Units

18. Specifications

Outdoor Unit:

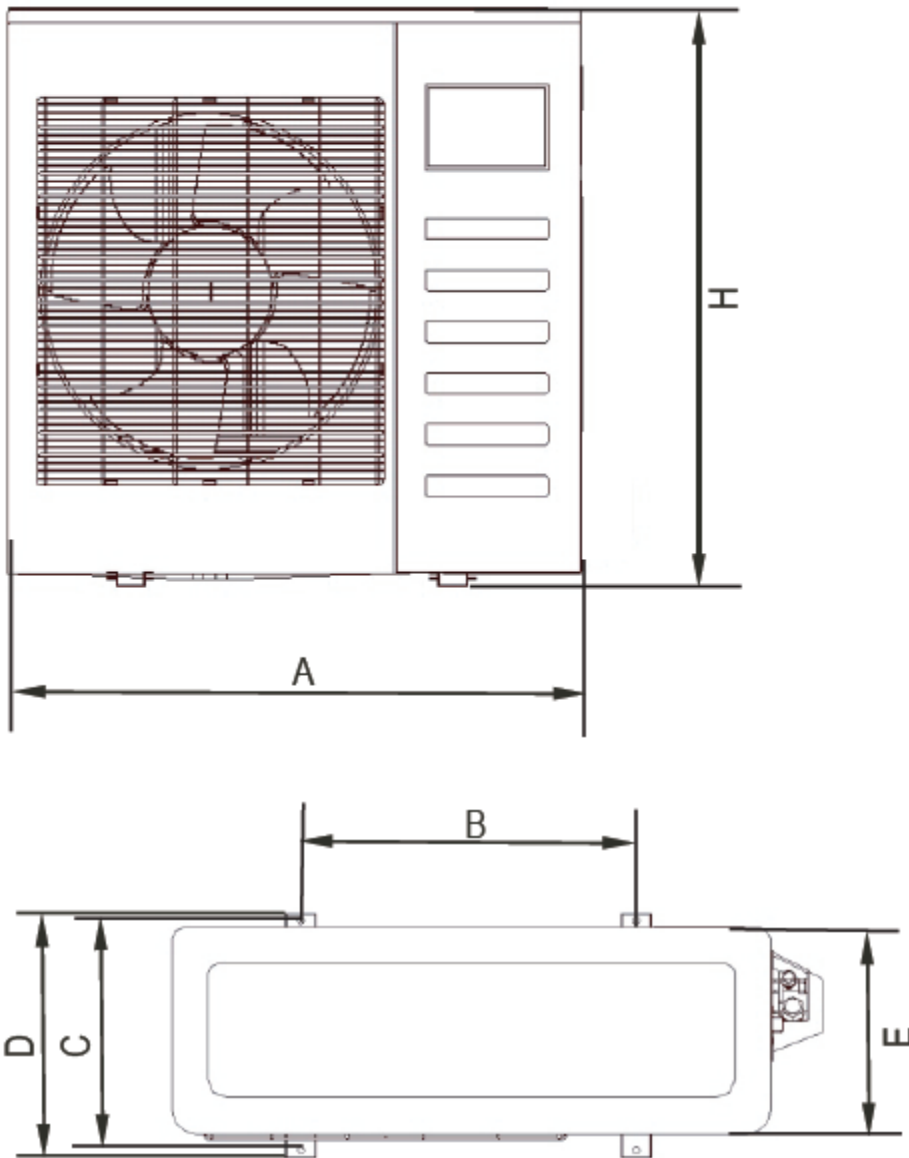
Outdoor Model		HCKU 565 X2R		
Power supply		V-ph-Hz	220~240-1-50	
Supply electricity type		Outdoor unit supply power		
Cooling	Capacity	Kw/h	5.60	
	Input	W	1.643	
	Rated current	A	7	
Heating	Capacity	Kw/h	6.98	
	Input	W	1.773	
	Rated current	A	8.5	
Max. input consumption		W	2150	
Max. current		A	10.5	
Compressor	Model		C-6RVN93H0V	
	Type		ROTARY	
	Brand		Sanyo	
	Capacity	Btu/h	15430	
	Input	W	1470	
	Rated current	A	9	
	Refrigerant oil	ml	350	
Outdoor fan motor	Model		YDK53-6M	
	Brand		Welling	
	Input	W	143	
	Capacitor	uF	3	
	Speed	r/min	780	
Outdoor coil	Number of rows		2	
	Tube pitch(a)x row pitch(b)	mm	25.4x22	
	Fin spacing	mm	1.7	
	Fin type		Hydrophilic aluminium	
	Tube outside dia. and type	mm	φ9.53 inner-groove tube	
	Coil length x height x width	mm	766x660x44	
	Number of circuits		4	
Outdoor air flow		m ³ /h	3000	
Outdoor noise level		dB(A)	53	
Outdoor unit	Dimension(W x H x D)	mm	845X695X335	
	Packing (W x H x D)	mm	965 x 772 x 399	
	Net/Gross weight	kg	61/65	
Refrigerant	type		R410A	
	Charged volume	g	1800	
Throttle type			EEV and capillary	
Design pressure(Hi/Lo)		MPa	4.2/2.5	
	Liquid side/ Gas side	mm	φ6.35/φ9.53	
Refrigerant piping (between each indoor unit and outdoor unit)		Max. refrigerant pipe length	m	15
		Max. difference in level	m	10
Connection wiring	Power wiring	mm ²	2.5 x 3 cores	
	Signal wiring	mm ²	1	
Ambient temp		°C	Cooling(17~43) Heating(-7~21)	

Outdoor Model		HCKU 805 X3R	
Power supply		V-ph-Hz	220~240-1-50
Supply electricity type		Outdoor unit supply power	
Cooling	Capacity	Kw/h	8.00
	Input	W	2.405
	Rated current	A	13
Heating	Capacity	Btu/h	9.80
	Input	W	2.50
	Rated current	A	12.5
Max. input consumption		W	3200
Max. current		A	19
Compressor	Model		JU1015D1
	Type		ROTARY
	Brand		HITACHI
	Capacity	Btu/h	15250
	Input	W	1650
	Capacitor	uF	55
	Refrigerant oil	ml	460
Outdoor fan motor	Model		YDK53-6M
	Brand		Welling
	Input	W	143
	Capacitor	uF	3
	Speed	r/min	780
Outdoor coil	Number of rows		1
	Tube pitch(a)x row pitch(b)	mm	25.4x22
	Fin spacing	mm	1.7
	Fin type		Hydrophilic aluminium
	Tube outside dia. and type	mm	φ9.53 inner-groove tube
	Coil length x height x width	mm	766x660x44
	Number of circuits		4
Outdoor air flow		m ³ /h	3000
Outdoor noise level		dB(A)	59.5
Outdoor unit	Dimension(W x H x D)	mm	845X695X335
	Packing (W x H x D)	mm	965 x 772 x 399
	Net/Gross weight	kg	68/72
Refrigerant	type		R410A
	Charged volume	g	2280
Throttle type			EEV and capillary
Design pressure(Hi/Lo)		MPa	4.2/2.5
Refrigerant piping (between each indoor unit and outdoor unit)	Liquid side/ Gas side	mm	Φ6.35/Φ9.53
	Max. refrigerant pipe length	m	15
	Max. difference in level	m	10
Connection wiring	Power wiring	mm ²	3.3
	Signal wiring	mm ²	1
Ambient temp		°C	Cooling(17~43) Heating(-7~21)

Sale Model		HCKU 855 X4R	
Supply electricity type		Outdoor unit supply power	
Power supply	V-ph-Hz	220~240-1-50	
Cooling	Capacity	Kw/h	8.50
	Input	W	2.613
	Rated current	A	11.0
Heating	Capacity	Kw/h	9.935
	Input	W	2.410
	Rated current	A	14.5
Max. input consumption		W	4800
Max. current		A	21
Compressor	Model		TNB220FLBM1
	Type		rolling piston type rotary
	Brand		MITSUBISHI ELECTRIC
	Capacity	Btu/h	24328
	Input	W	2200
	Rated current	A	9.7
	Capacitor	uF	60
	Refrigerant oil	ml	MEL 56/670
Outdoor fan motor	Model		YDK53-6Z
	Brand		Welling
	Input	W	141.5/92
	Capacitor	uF	3
	Speed(Hi/Lo)	r/min	815/550
Outdoor coil	Number of rows		1
	Tube pitch(a)x row pitch(b)	mm	25.4X22
	Fin spacing	mm	1.5
	Fin type (code)		Hydrophilic aluminum
	Tube outside dia. and type	mm	Φ9.53 internal thread pipe
	Coil length x height x width	mm	620 x 813 x 248
	Number of circuits		2
Outdoor air flow		m ³ /h	3500/
Outdoor noise level		dB(A)	60.5
Outdoor unit	Dimension(W x H x D)	mm	968*858*355
	Packing (W x H x D)	mm	1043 x 915 x 395
	Net/Gross weight	kg	80/84
Refrigerant	Type		R410A
	Charged volume	g	2550
Throttle type			EEV and capillary
Design pressure		MPa	4.2/2.5
Refrigerant pipe (between each indoor unit and outdoor unit)	Liquid side/ Gas side	mm	Φ6.35/Φ9.53
	Max. refrigerant pipe length	m	15
	Max. difference in level	m	10
Connection wiring	Power wiring	mm ²	2.5 x 3 cores
	Signal wiring	mm ²	1
Ambient temp		°C	Cooling(-15~43) Heating(-7~21)

19. Dimensions

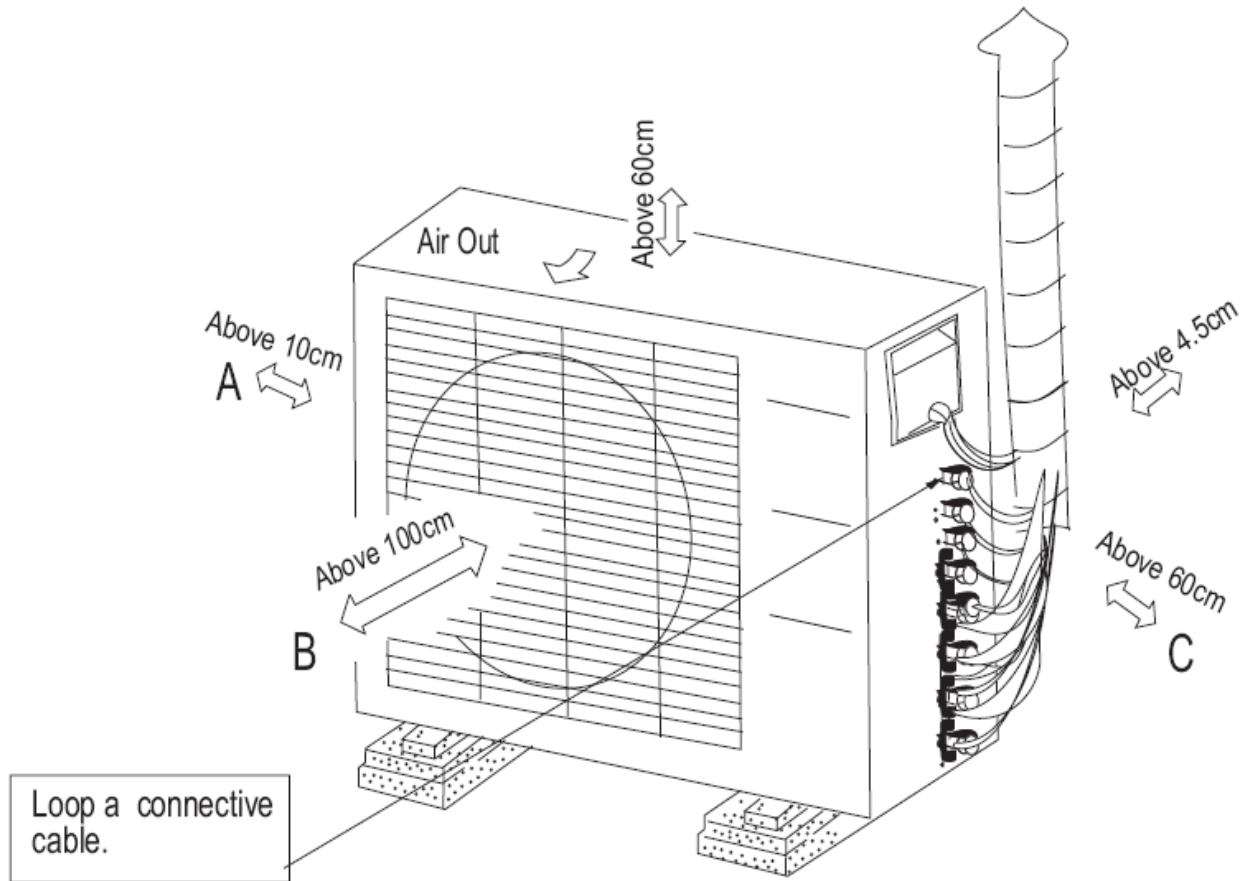
HCKU 565 X2R, HCKU 805 X3R, HCKU 855 X4R



Unit: mm

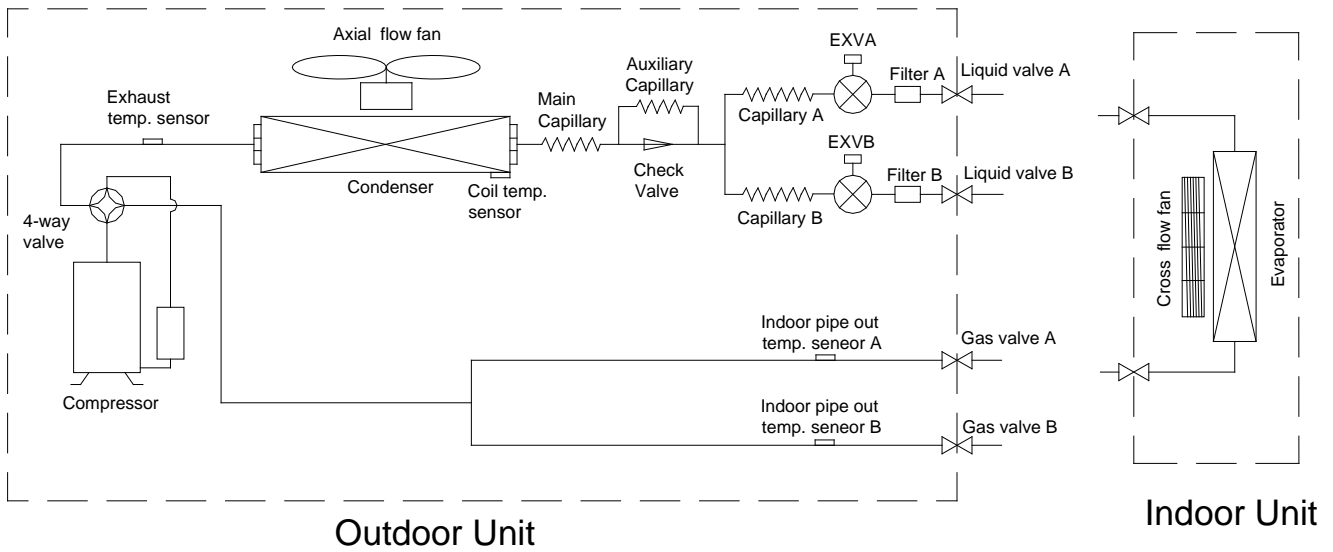
MODEL	A	B	C	D	E	H
HCKU 565 X2R	845	560	335	355	315	695
HCKU 805 X3R	845	560	335	355	315	695
HCKU 855 X4R	968	590	335	355	315	858

20. Service Space

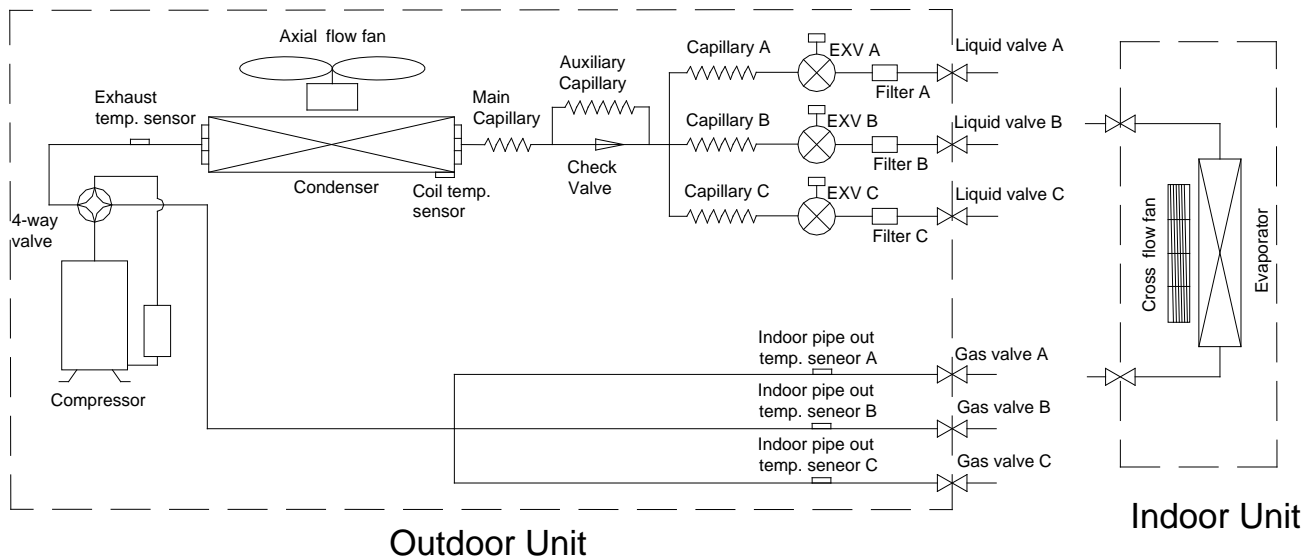


21. Piping Diagrams

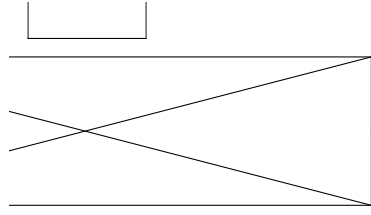
HCKU 565 X2R



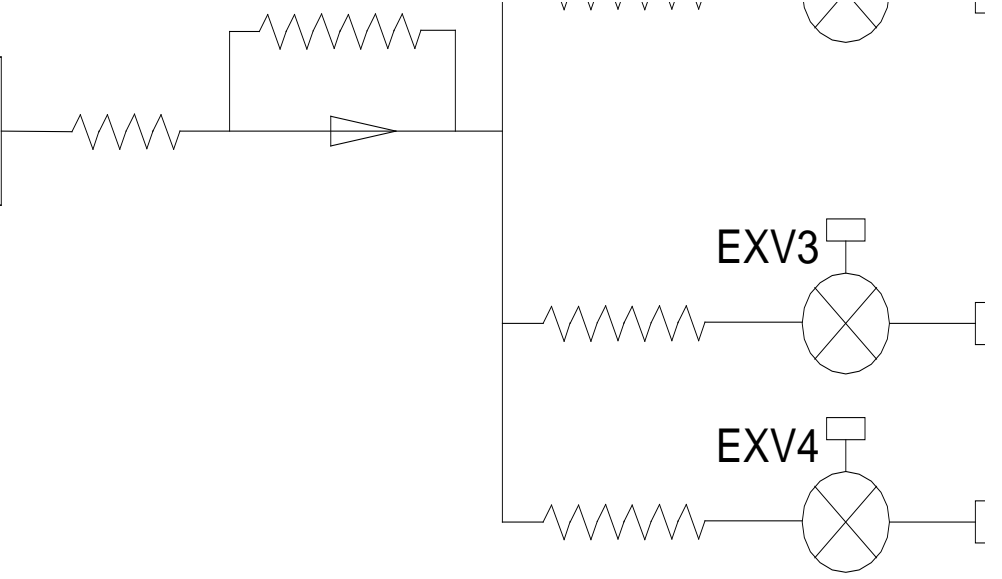
HCKU 805 X3R



HCKU 855 X4R

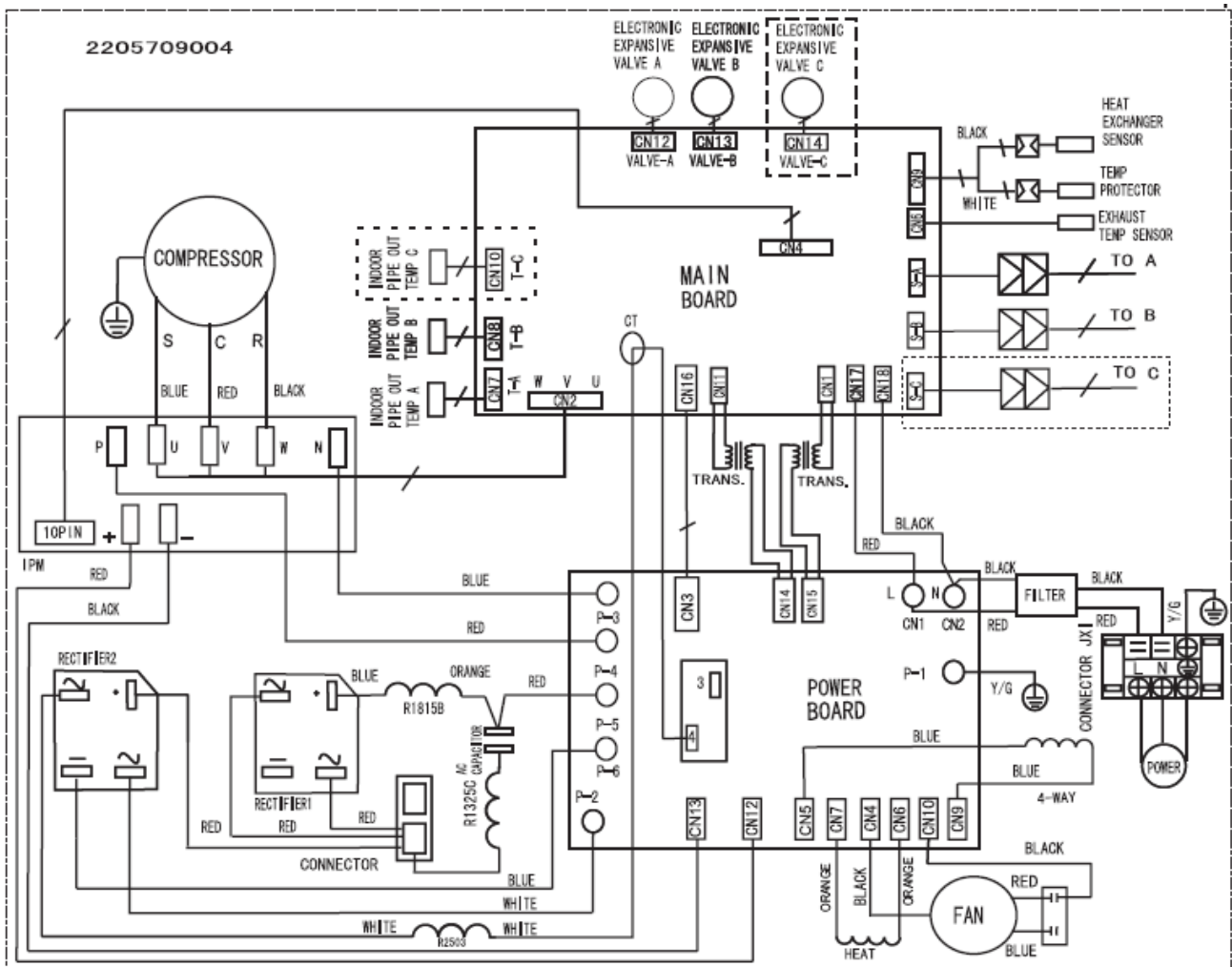


Condenser

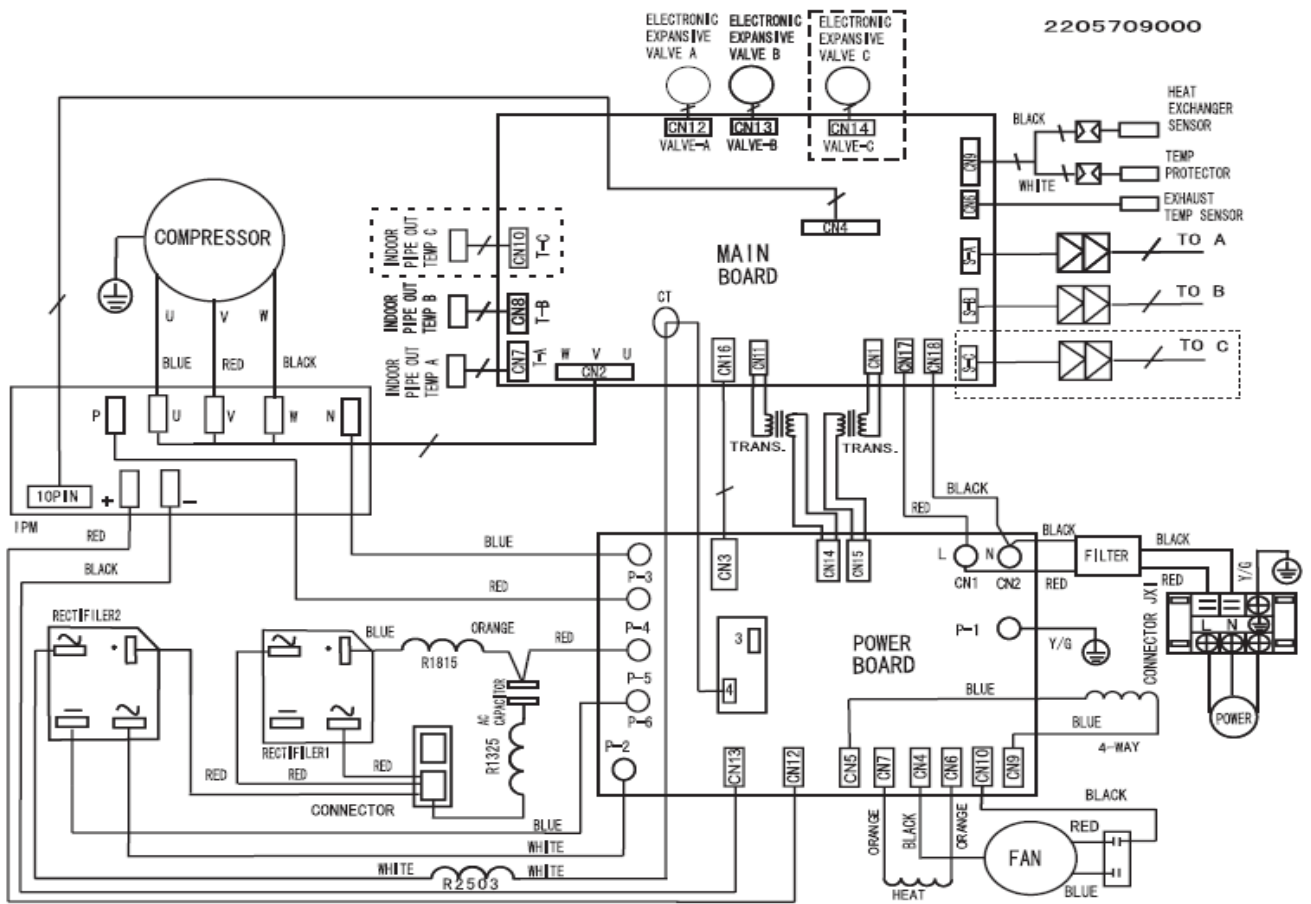


22. Wiring Diagrams

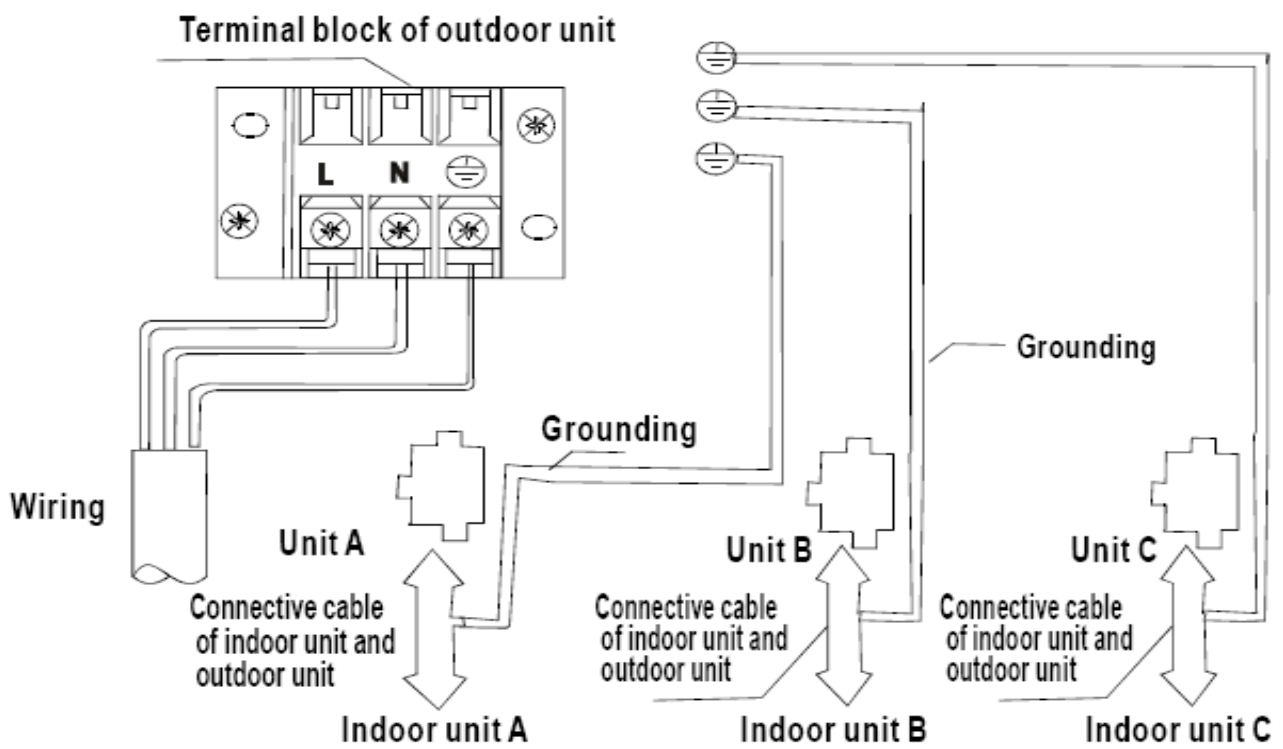
HCKU 565 X2R



HCKU 805 X3R



23. Field Wiring



24. Electric Characteristics

Model	Outdoor Unit				Power Supply			OFM	
	Hz	Voltage	Min.	Max.	MCA	TOCA	MFA	kW	FLA
HCKU 565 X2R	50	220-240	198	254	6	15.4	21	0.053	0.676
HCKU 805 X3R	50	220-240	198	254	6	16	25	0.053	0.676
HCKU 855 X4R	50	220-240	220	254	\	15.3	20	0.053	0.67

Remark:

MCA: Min. Current Amps. (A)

TOCA: Total Over-current Amps. (A)

MFA: Max. Fuse Amps. (A)

MSC: Max. starting Amps. (A)

RLA: Rated Locked Amps. (A)

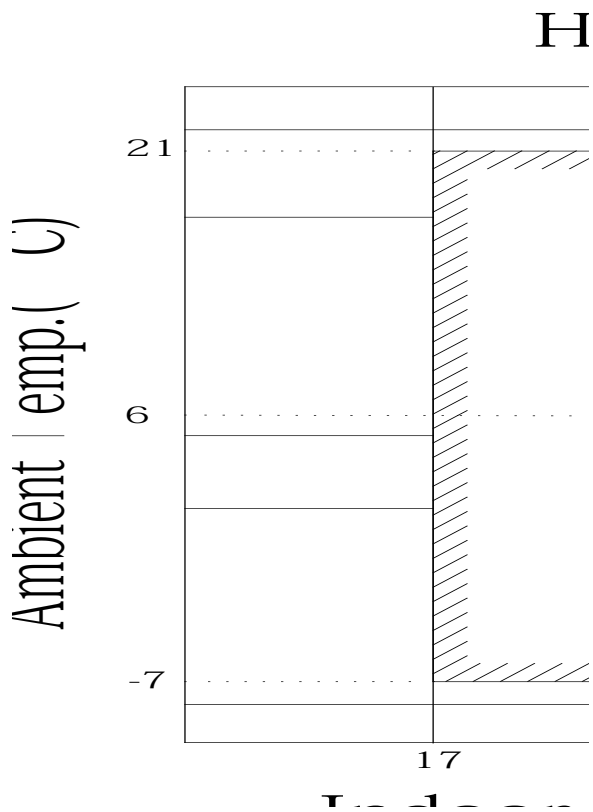
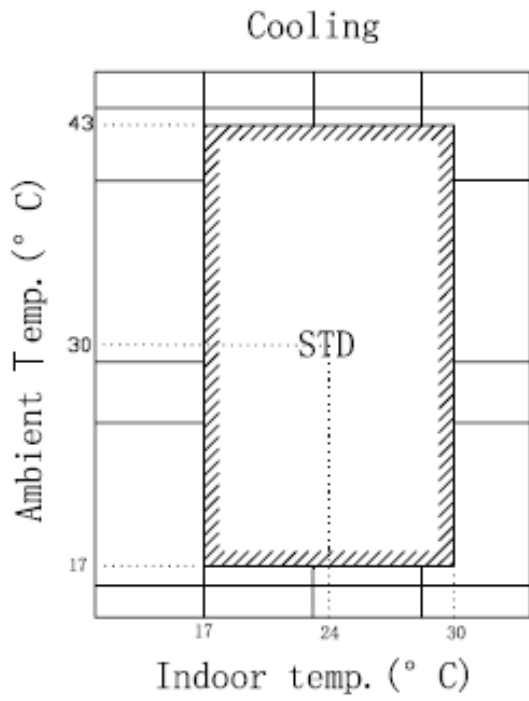
OFM: Fan Motor.

FLA: Full Load Amps. (A)

KW: Rated Motor Output (kW)

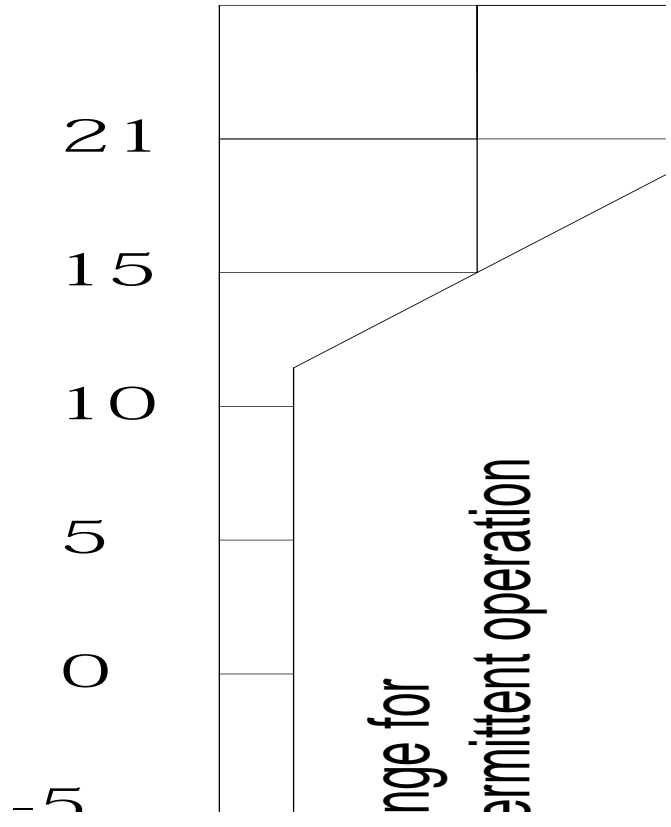
25. Operation Limits

For HCKU 565 X2R, HCKU 805 X3R



For HCKU 855 X4R

Temperature(°C WB)



26. Sound Levels

Model	Noise level dB(A)
HCKU 565 X2R	53
HCKU 805 X3R	59.5
HCKU 855 X4R	60.5

27. Troubleshooting

Indoor unit's LED indication of Corona DC inverter unit

Display	LED STATUS
E0	EEPROM error
E1	outdoor communication error
E2	Zero-crossing examination error
E3	Fan speed beyond control
E5	Outdoor units temp. sensor or connector of temp. sensor is defective
E6	Indoor units temp. sensor or connector of temp. sensor is defective
P0	Inverter module protection
P1	Outdoor voltage protection
P2	Compressor top protection against temperature
P3	Compressor current protection
P5	Outdoor low temp. protection

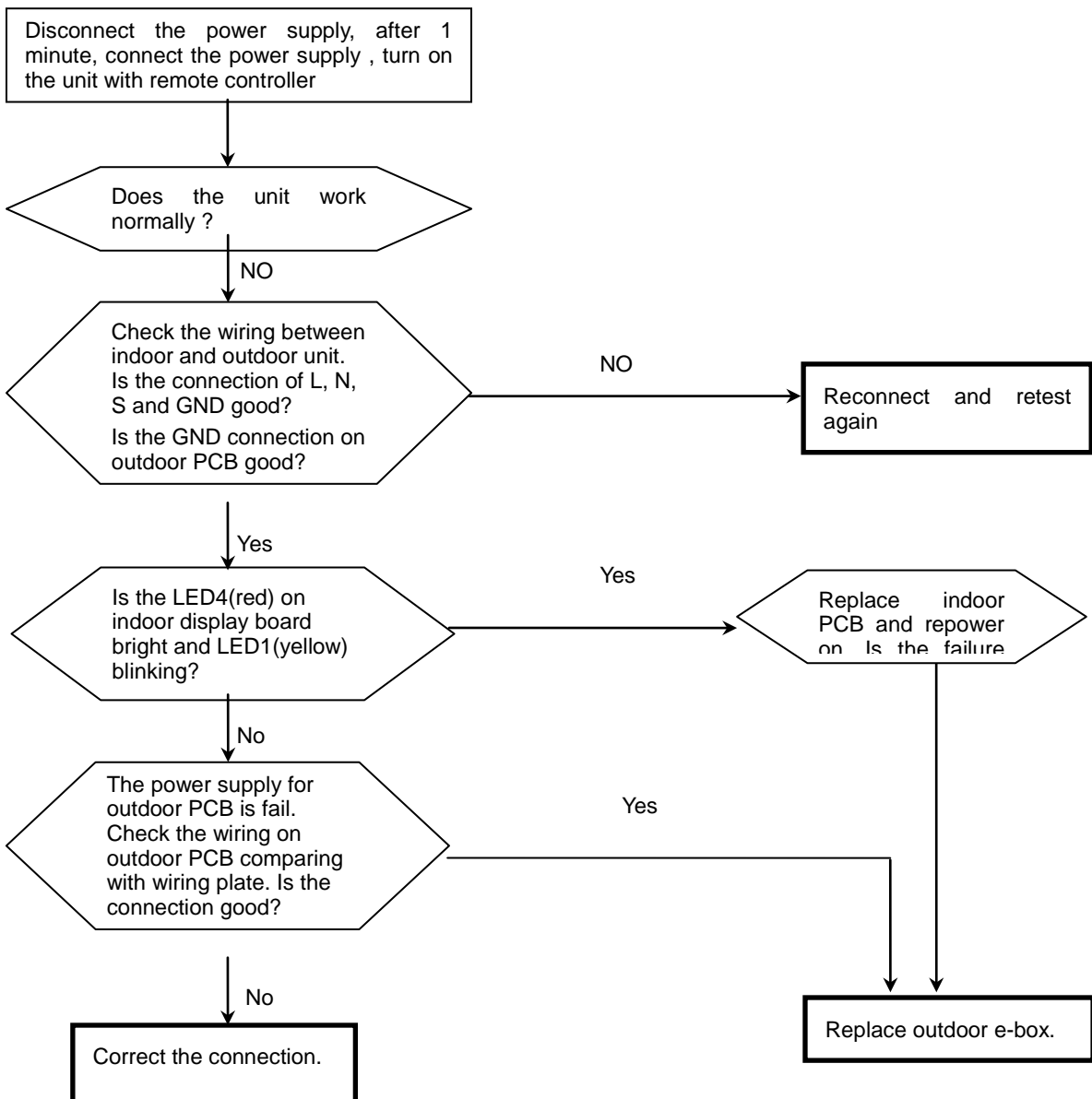
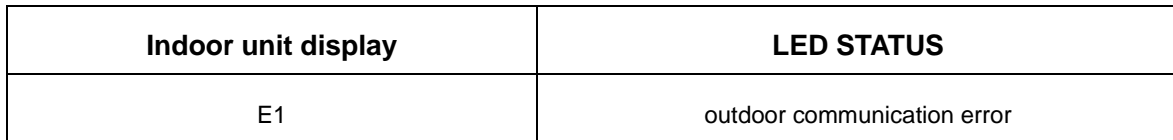
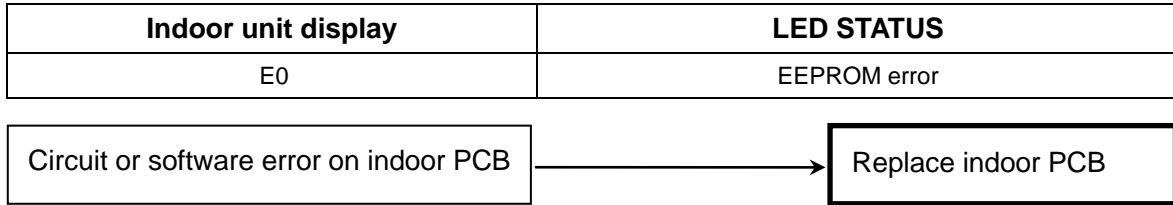
Indoor unit's LED indication of Alfa DC inverter unit

Display	LED STATUS
E0	EEPROM error
E1	outdoor communication error
E2	Zero-crossing examination error
E3	Fan speed beyond control
E5	Outdoor units temp. sensor or connector of temp. sensor is defective
E6	Indoor units temp. sensor or connector of temp. sensor is defective
P0	Inverter module protection
P1	Outdoor voltage protection
P2	Compressor top protection against temperature
P3	Compressor current protection

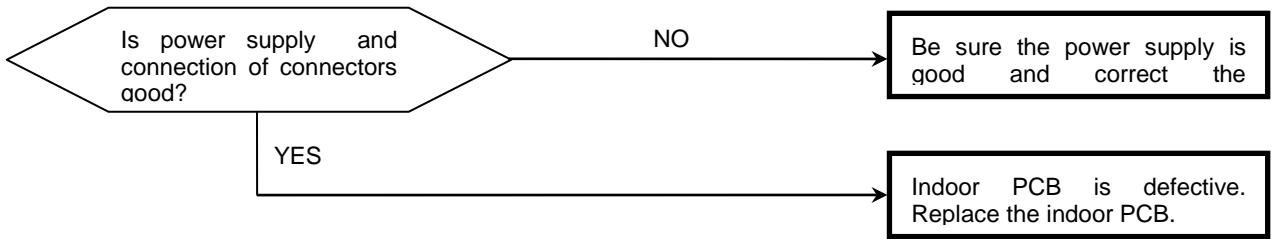
Indoor unit's LED indication of Vertu DC inverter unit

Display	LED STATUS
E0	EEPROM error
E1	outdoor communication error
E2	Zero-crossing examination error
E3	Fan speed beyond control
E5	Outdoor units temp. sensor or connector of temp. sensor is defective
E6	Indoor units temp. sensor or connector of temp. sensor is defective
P0	Inverter module protection
P1	Outdoor unit voltage protection
P2	Compressor top temperature protection
P3	Outdoor low temp. protection
P4	Inverter compressor drive protection
P5	Mode conflict protection

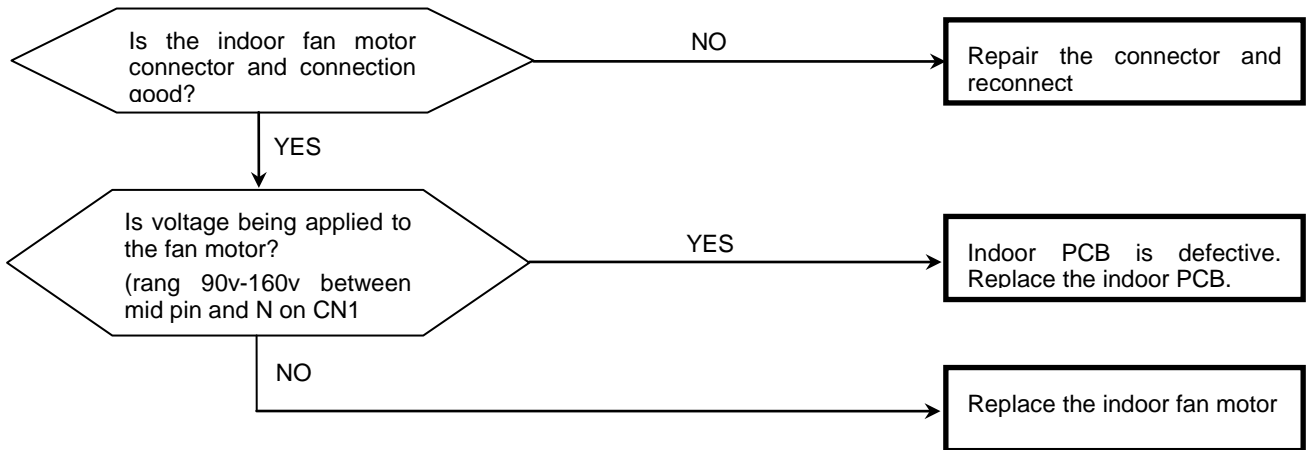
Indoor unit trouble shooting



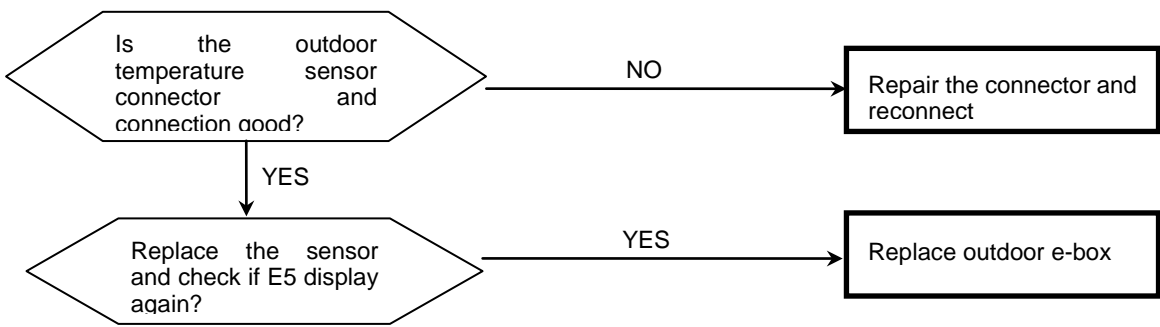
Indoor unit display	LED STATUS
E2	Zero-crossing examination error



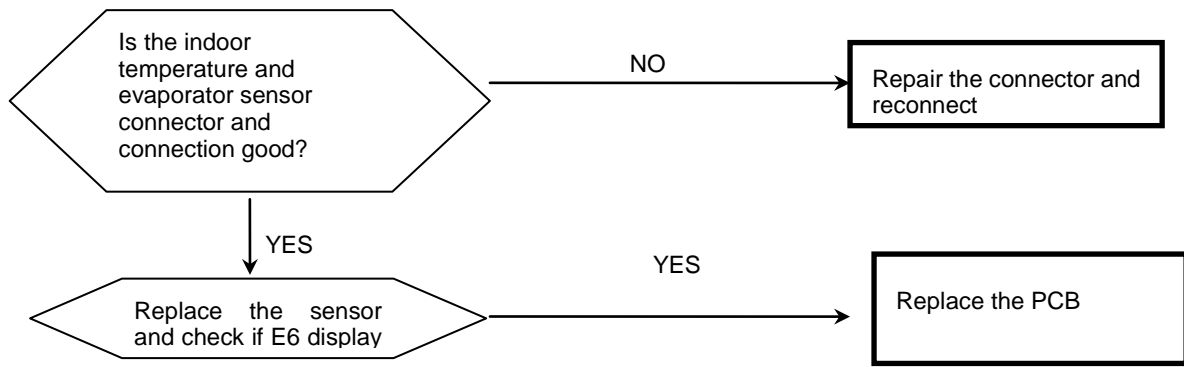
Indoor unit display	LED STATUS
E3	Fan speed beyond control



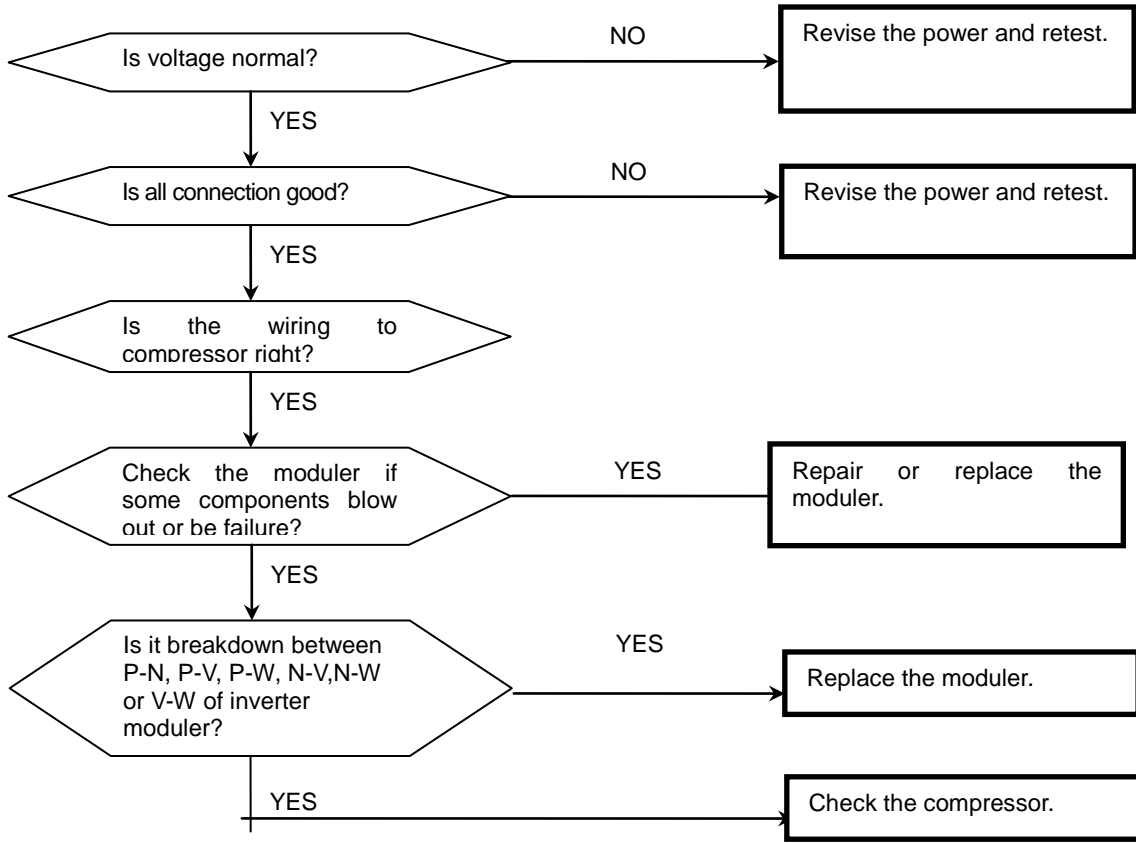
Indoor unit display	LED STATUS
E5	Outdoor units temp. sensor or connector of temp. sensor is defective



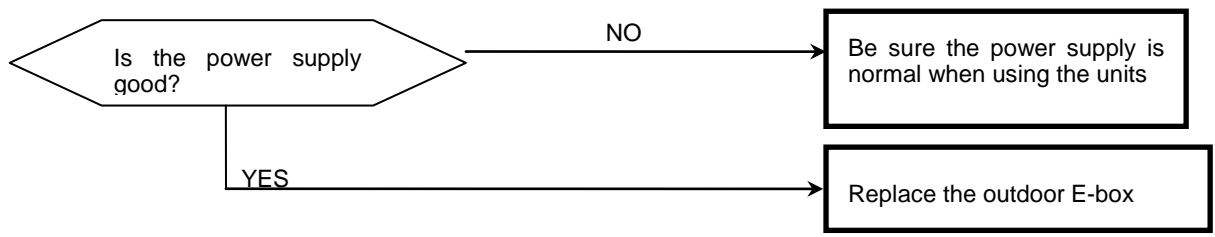
Indoor unit display	LED STATUS
E6	Indoor units temp. sensor or connector of temp. sensor is defective



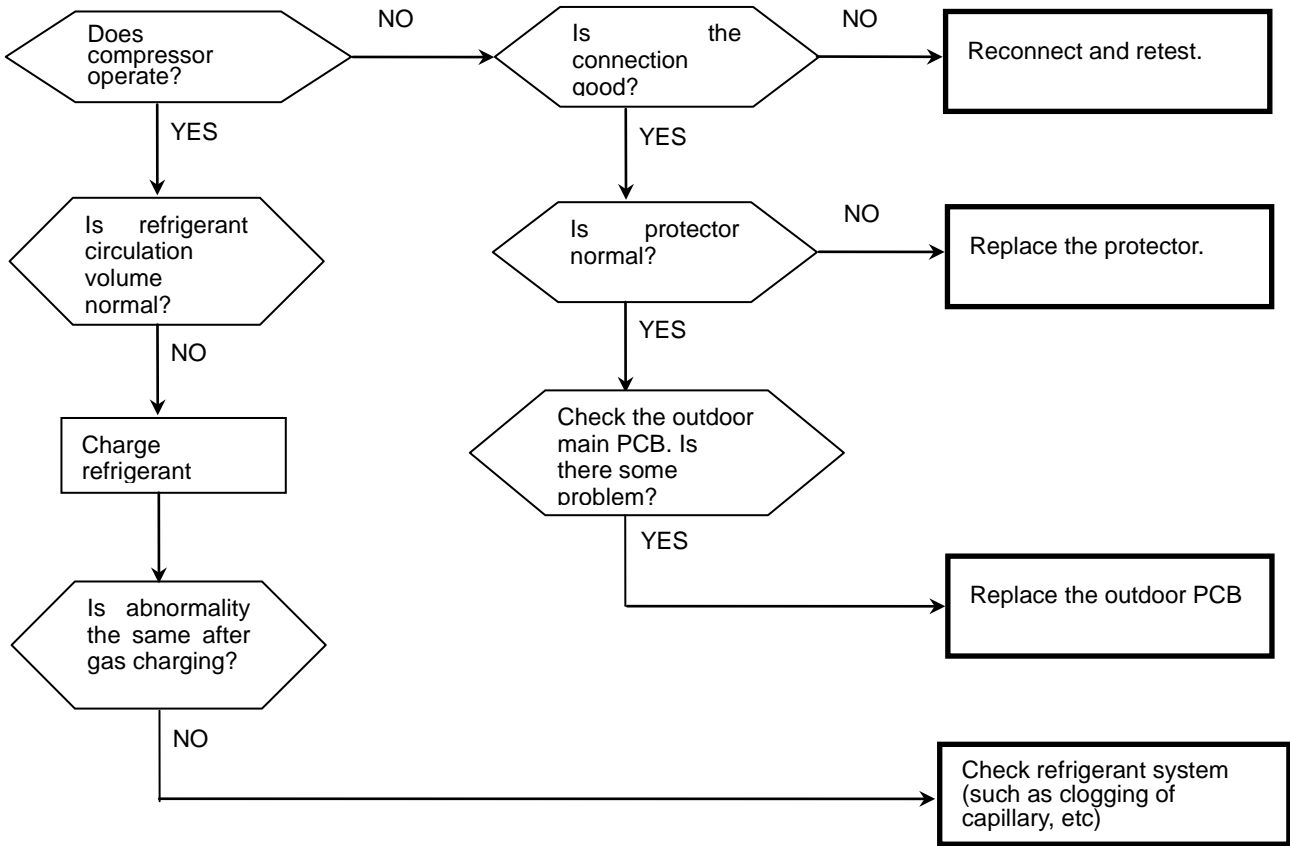
Indoor unit display	LED STATUS
P0	Inverter module protection



Indoor unit display	LED STATUS
P1	Outdoor voltage protection



Indoor unit display	LED STATUS
P2	Compressor top protection against temperature

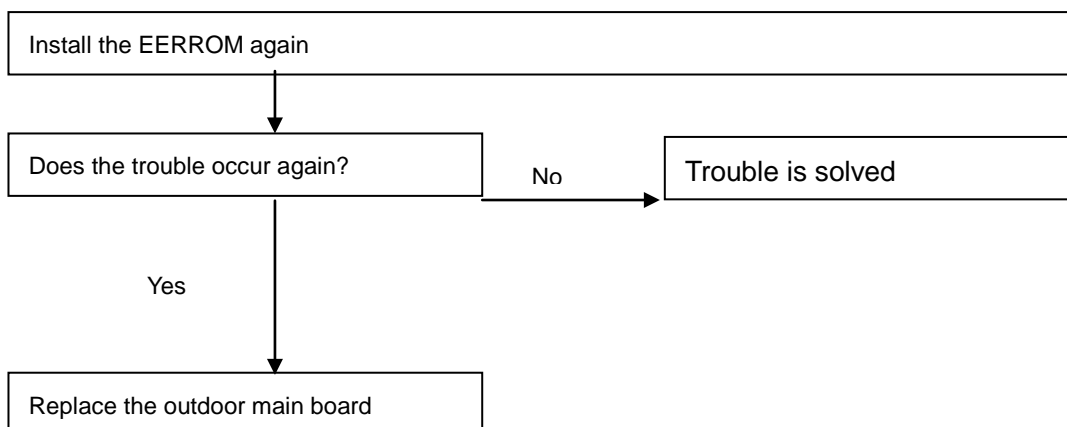


The trouble shooting of the P3,P4,P5 protection are the same as the outdoor unit, please refer to the outdoor trouble-shooting.

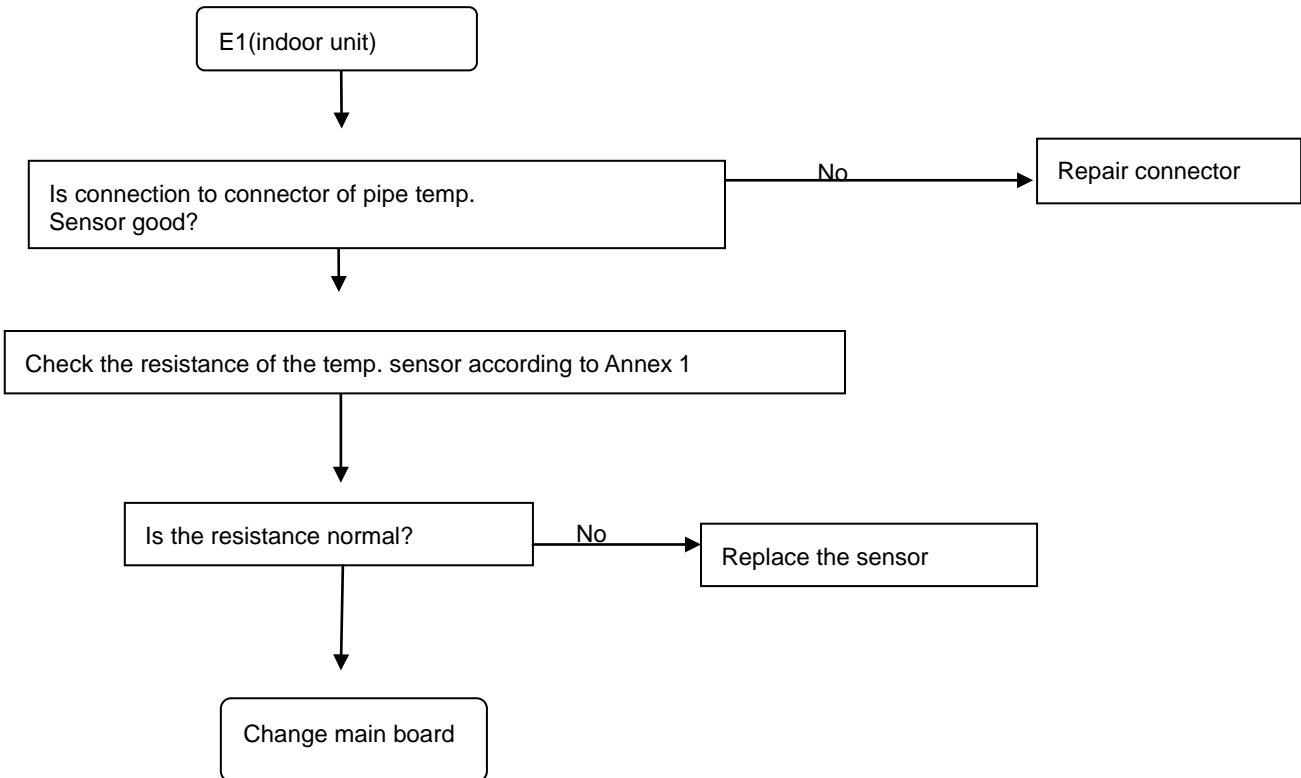
Outdoor unit's LED indication

Display	Explanation
E0	EEPROM error
E1	No 1 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective
E2	No 2 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective
E3	No 3 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective
E4	Outdoor temp. Sensor or connector of temp. sensor is defective
E5	Compressor voltage protection
E6	No 4 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective
E7	Communication malfunction between outdoor IC and DSP
P0	Compressor discharge temperature protection
P1	High pressure protection
P2	Low pressure protection
P3	Compressor current protection
P4	Module protection
P5	Outdoor low temp. protection
P6	Condenser high-temperature protection
P7	reserve
P8	reserve

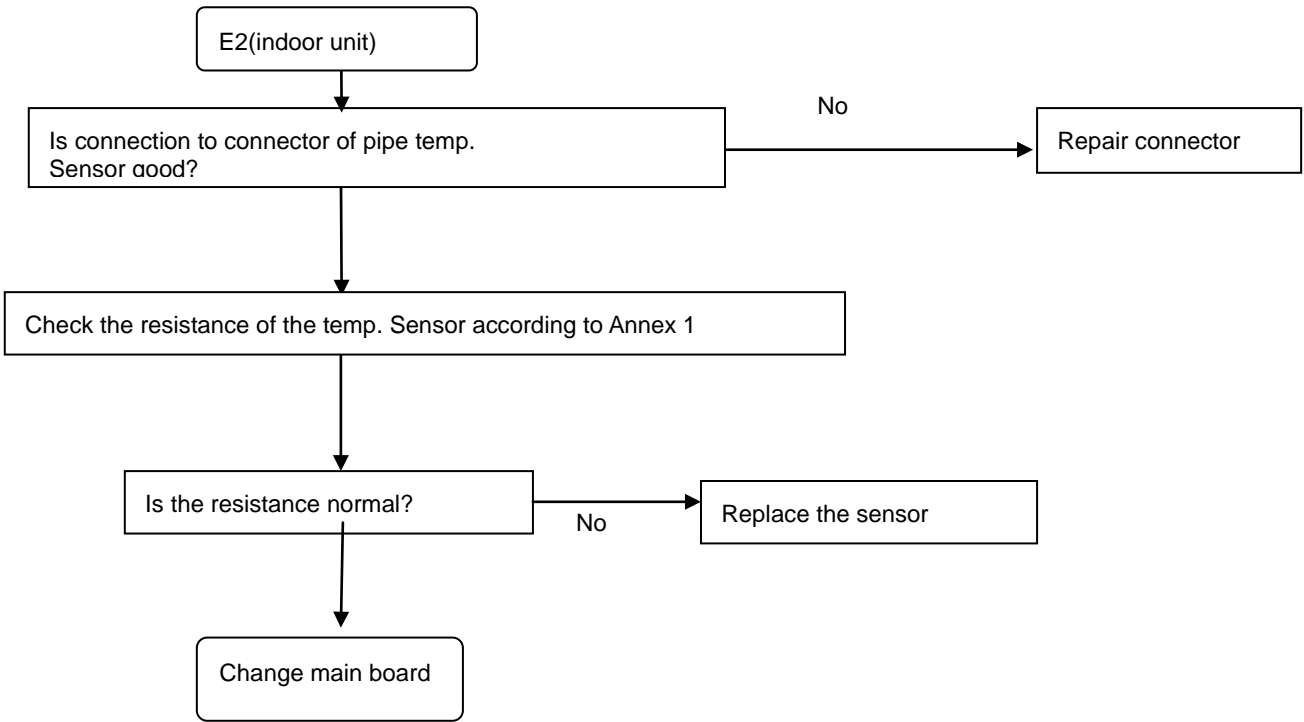
Display	Malfunction or Protection
E0	EEPROM Malfunction



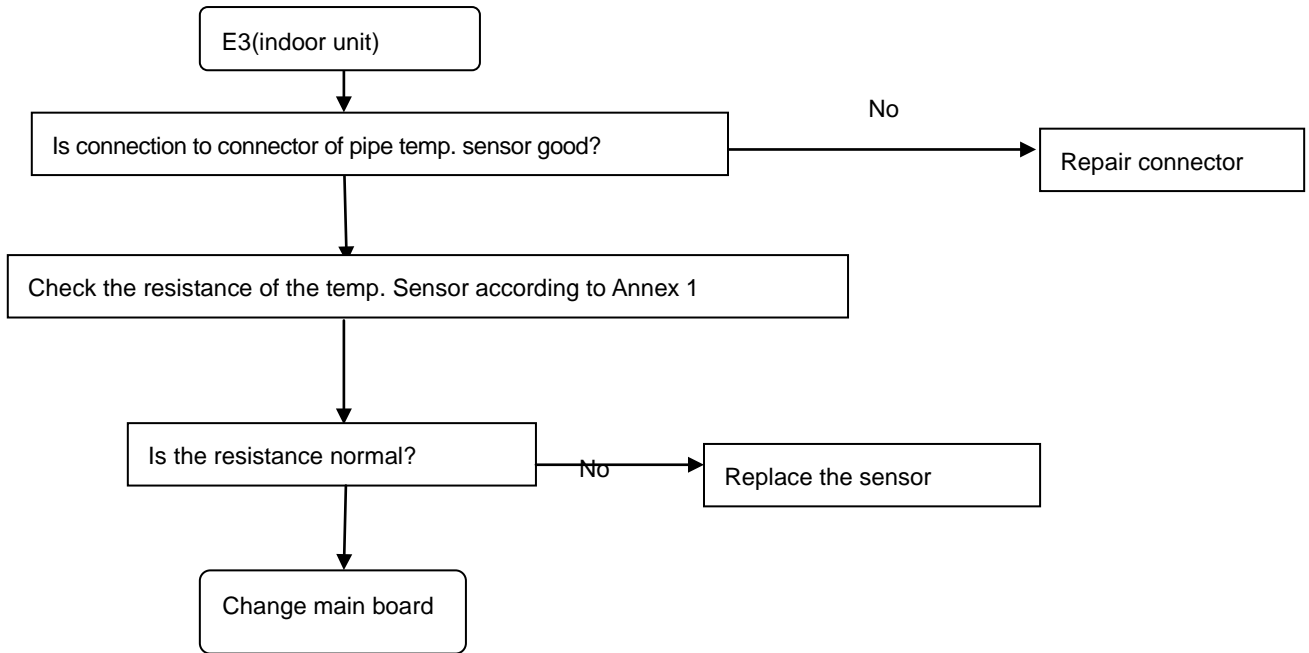
Display	Malfunction or Protection
E1	No 1 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective



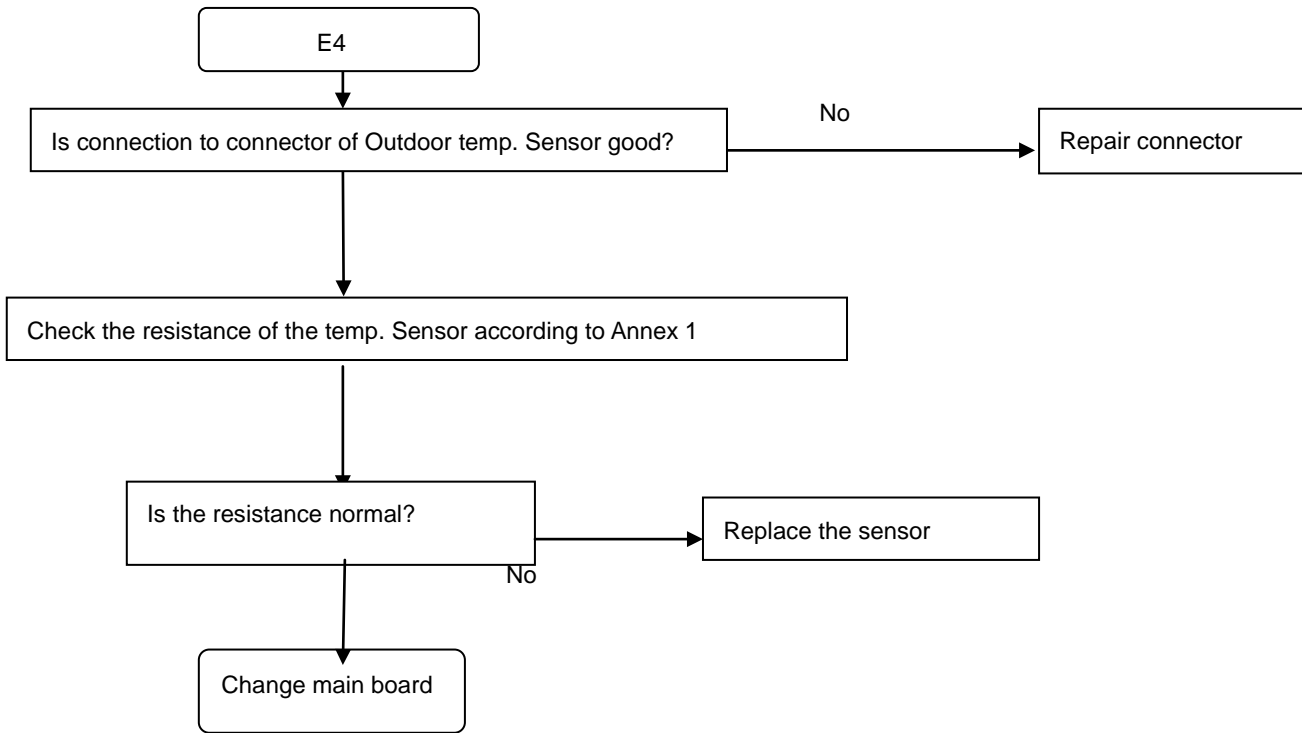
Display	Malfunction or Protection
E2	No 2 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective



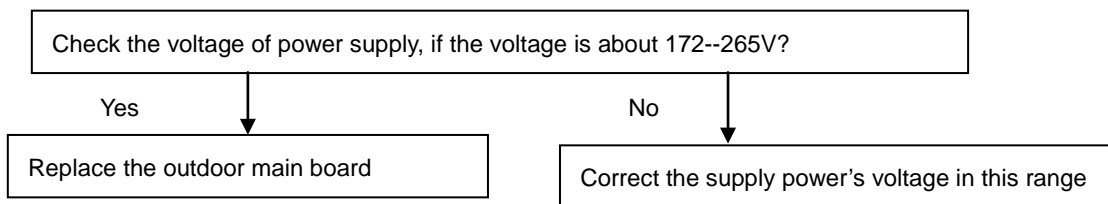
Display	Malfunction or Protection
E3	No 3 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective



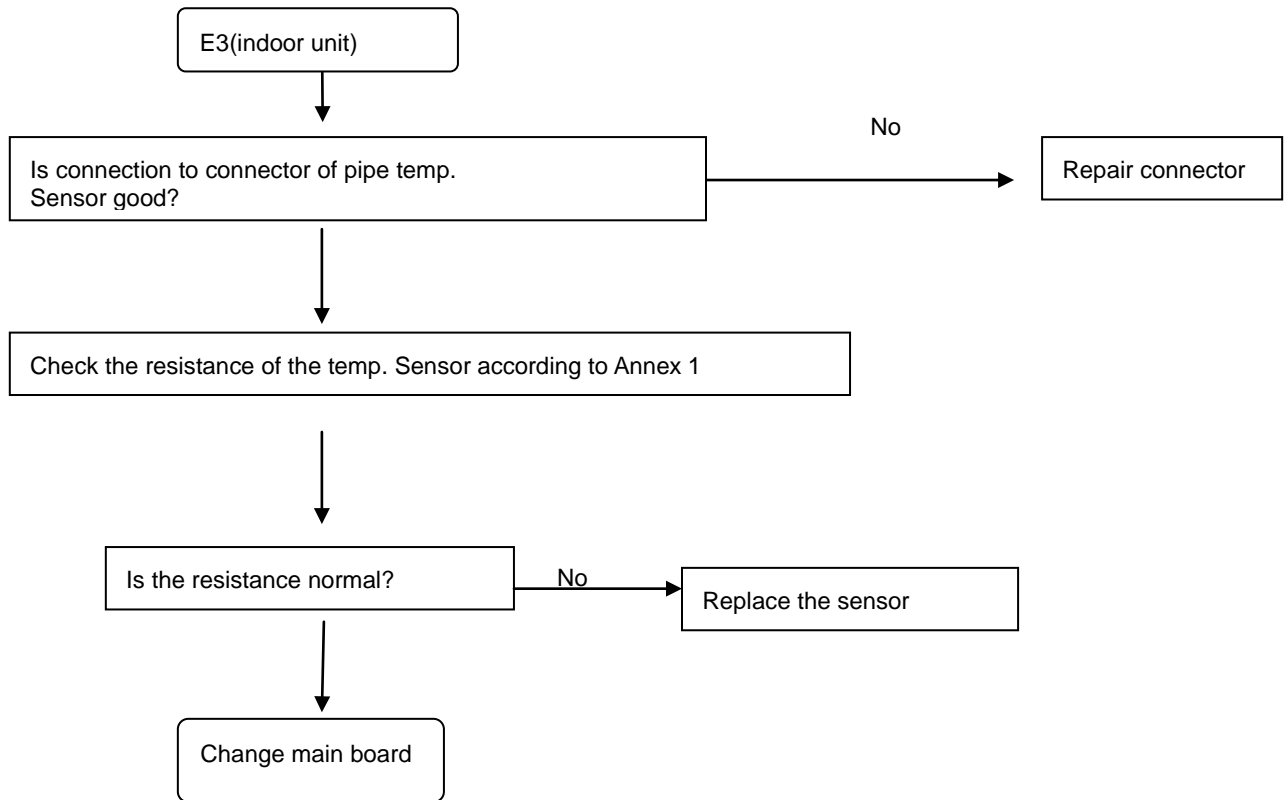
Display	Malfunction or Protection
E4	Outdoor temp. Sensor or connector of temp. sensor is defective



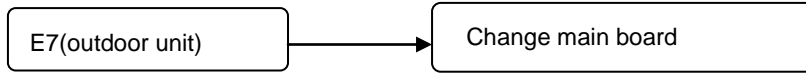
Display	Malfunction or Protection
E5	Compressor Voltage protection



Display	Malfunction or Protection
E6	No 4 Indoor units pipe temp. Sensor or connector of pipe temp. sensor is defective

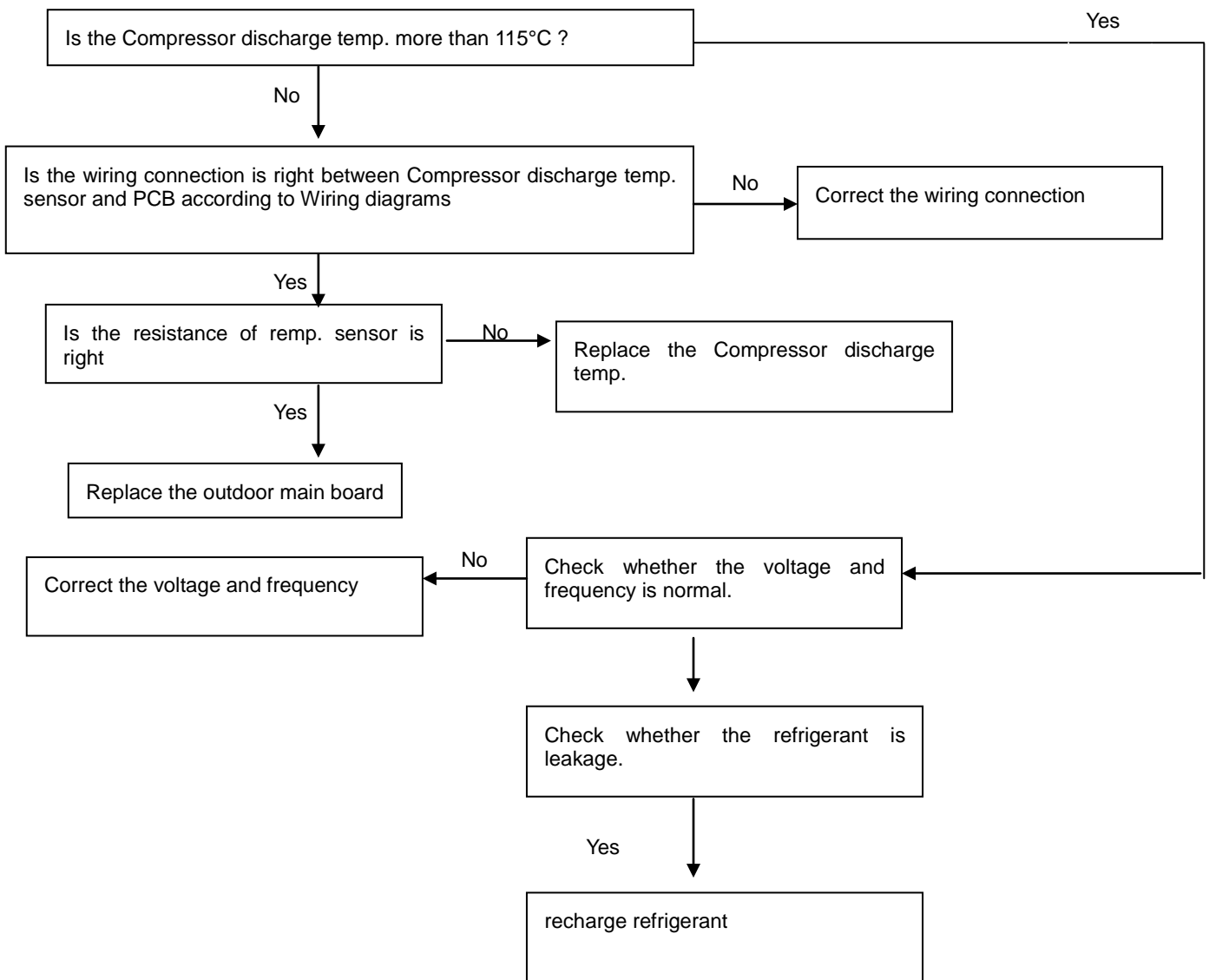


Display	Malfunction or Protection
E7	Communication malfunction between outdoor IC and DSP

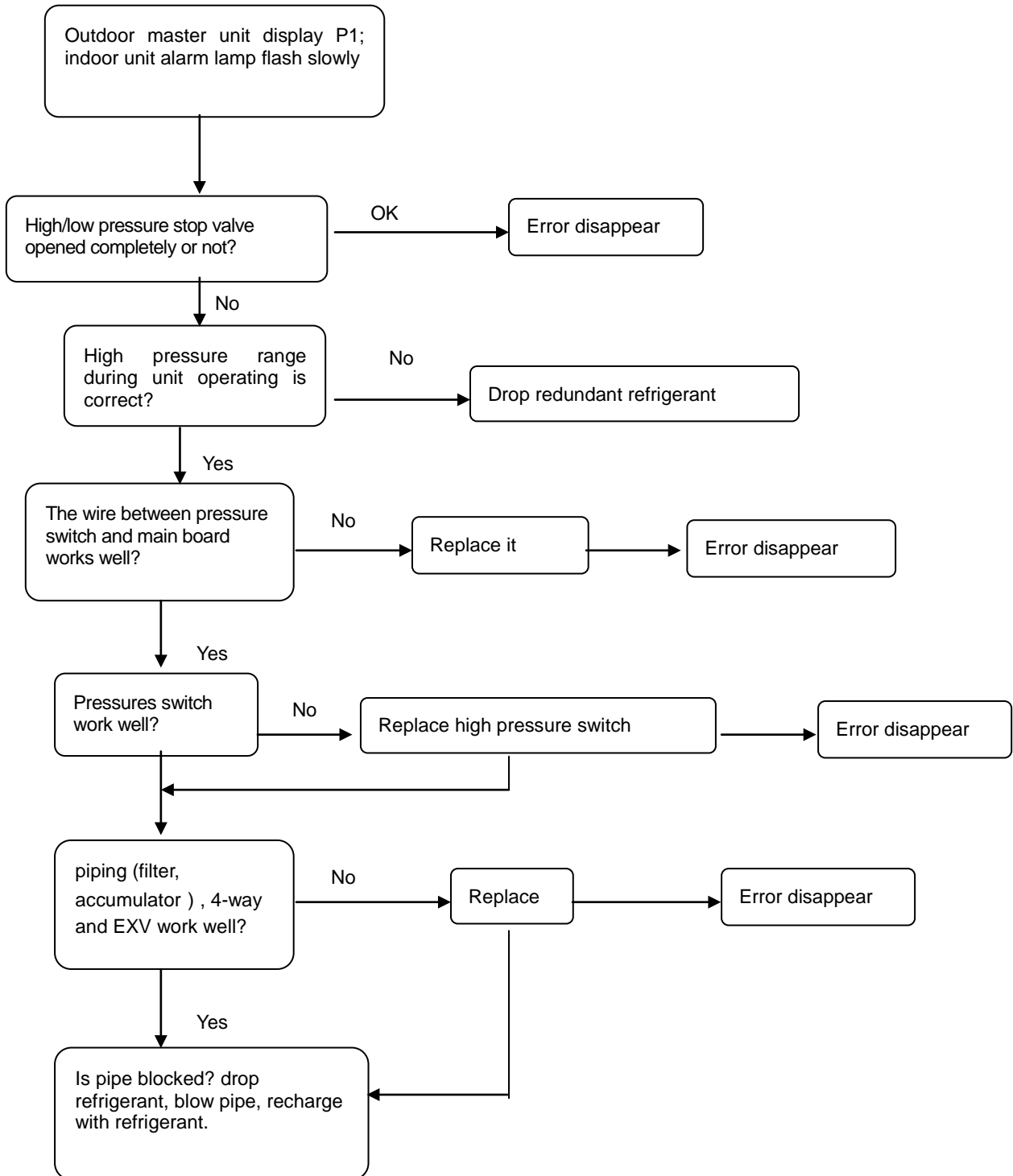


Display	Malfunction or Protection
P0	Compressor discharge temperature protection

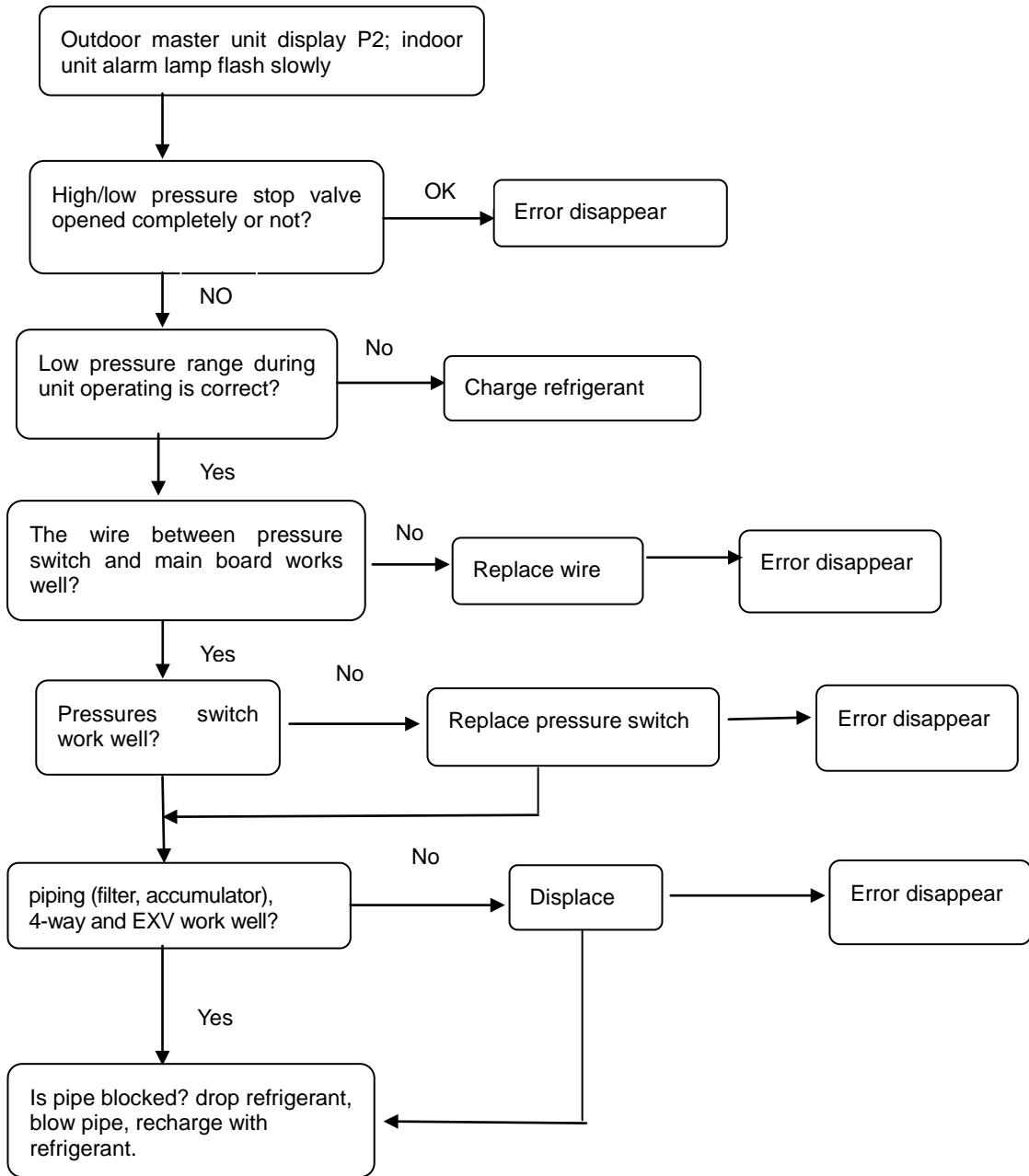
When Compressor discharge temp. is more than 115°C, the unit will stop, and unit runs again when Compressor discharge temp. less than 90°C.



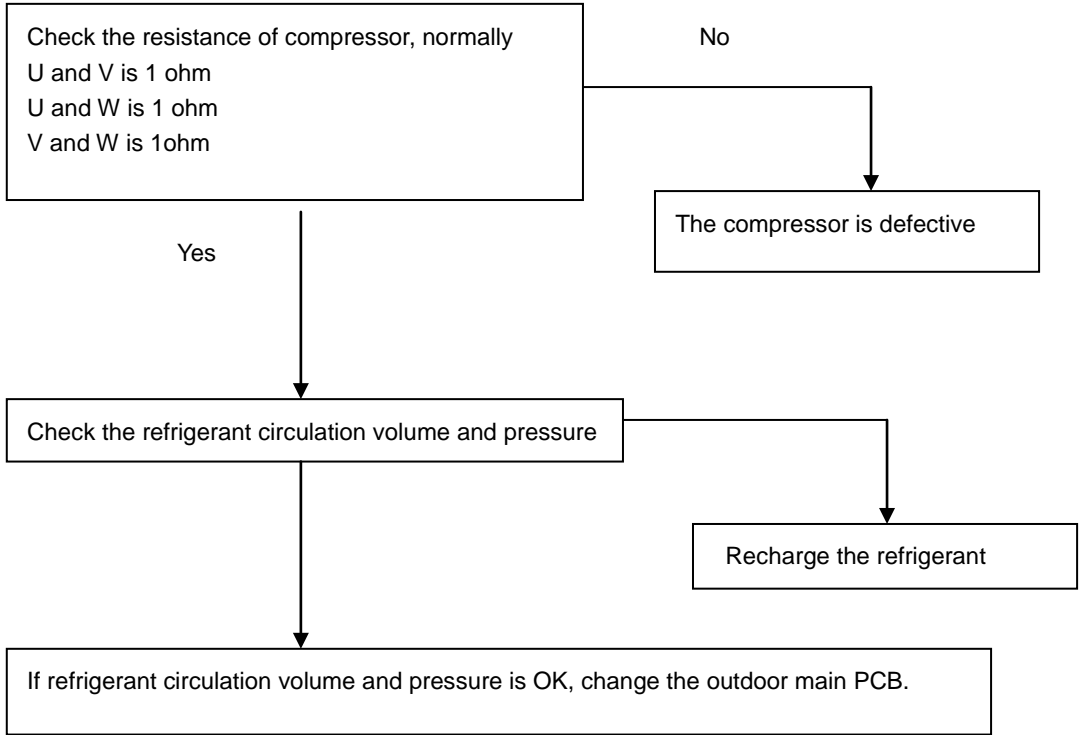
Display	Malfunction or Protection
P1	High pressure protection



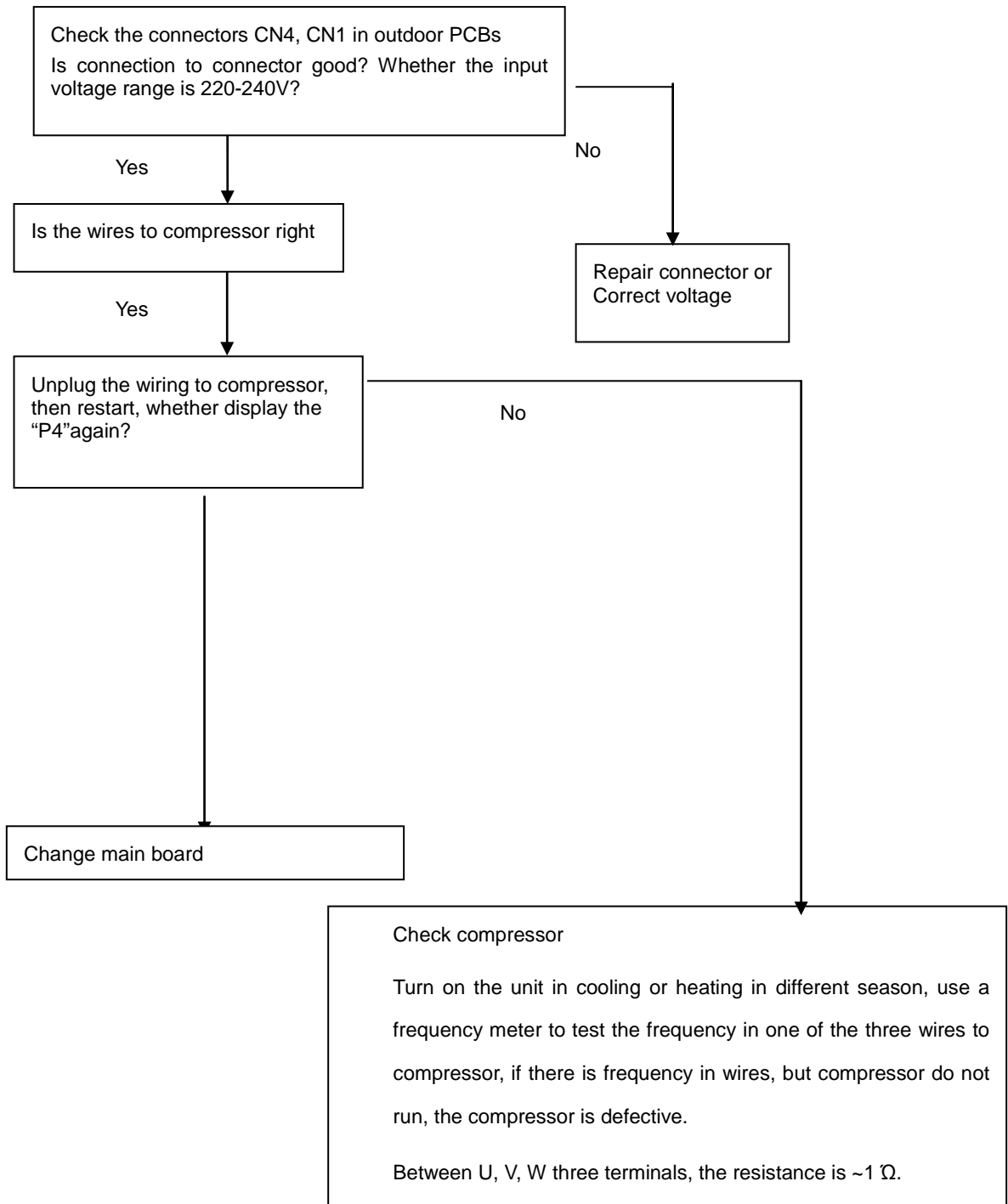
Display	Malfunction or Protection
P2	Low pressure protection



Display	Malfunction or Protection
P3	Compressor current protection

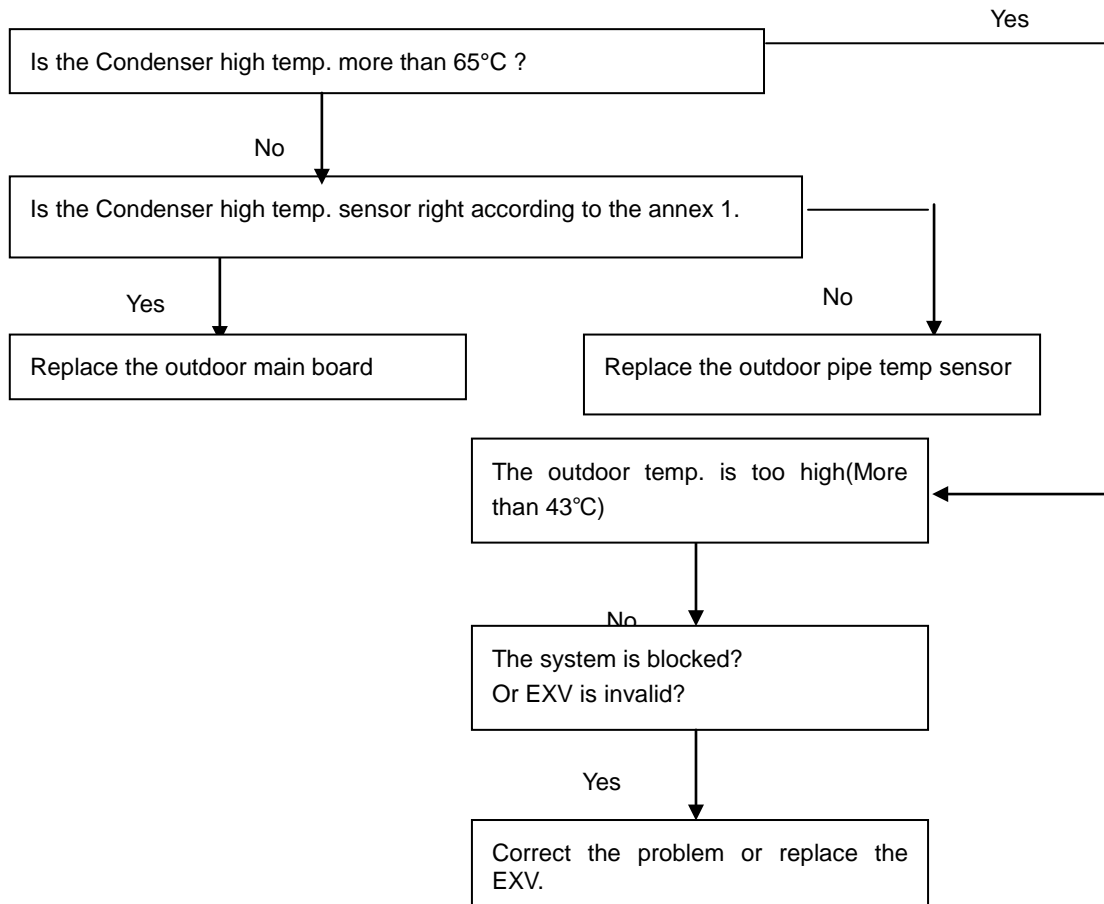


Display(LED flashes for thirteen times)	Malfunction or Protection
P4	Module protection



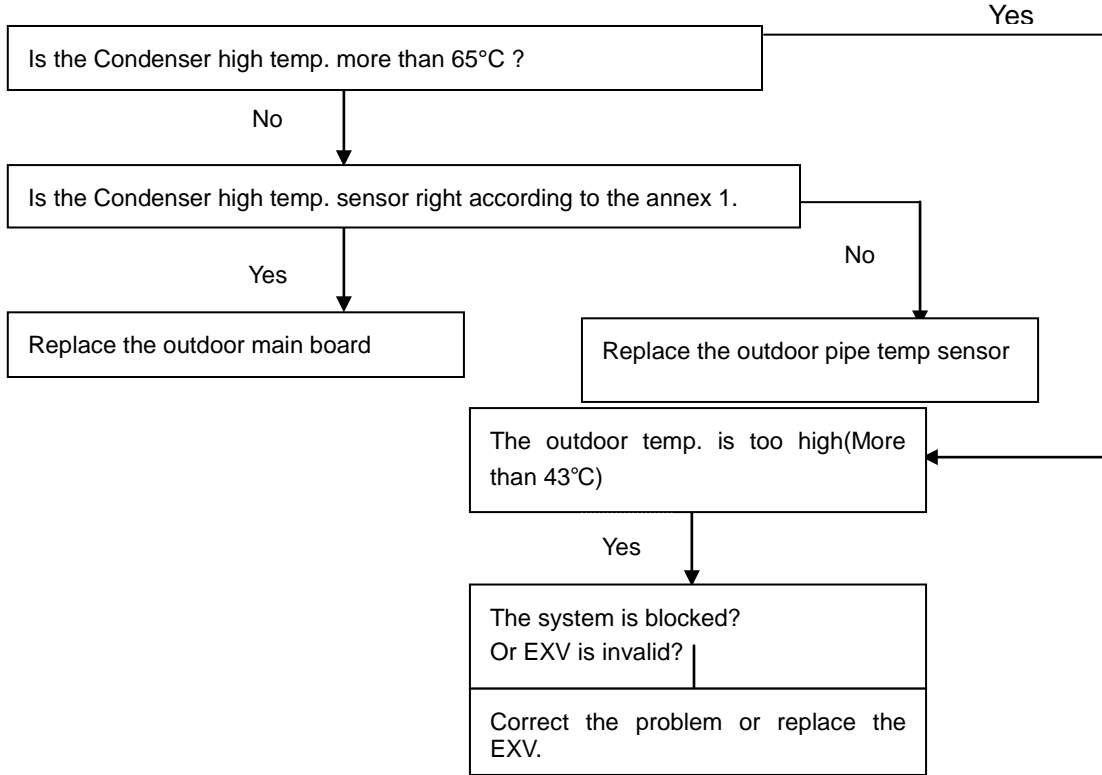
Display	Malfunction or Protection
P5	Outdoor low temperature protection

When outdoor temp. is lower than -15°C for more than 1 hour, the unit will stop, when the outdoor temp. is higher than -12°C for more than 10 minutes and the compressor has stopped for more than 1 hour, or the outdoor temp. is higher than 5°C for more than 10 minutes, the unit will be started again.



Display	Malfunction or Protection
P6	Condenser high temperature protection

When Condenser high temp. is more than 65°C, the unit will stop, and unit runs again when outdoor pipe temp. less than 52°C.



- Remark:**
1. Test digital discharge temperature, outdoor condenser temperature T3
 2. Test system pressure
 3. High digital discharge temperature is likely owing to the lack of refrigerant, air leakage or system blockade. Check the above items respectively to solve the problem.
 4. Condenser high temperature protection owes to the overcharge of refrigerant, air leakage or bad ventilation and heat-emission conditions.

Part 4

Installation

28. Installation and operation instructions

CAUTIONS

For correct installation read this manual before starting installation and save this manual in a safe place for future reference.

Only trained and qualified service personnel should install repair or service air conditioning equipment. Users should not install the air conditioner by themselves.

Nominal cooling capacity of outdoor unit is tested under the condition that outdoor ambient dry/wet bulb temperature is 35°C/24°C. Actual max. Output capacity depends on outdoor ambient temperature and connection method, which may differ from nominal value. According to refrigeration system design and operation requirement, this outdoor unit should work with indoor units with corresponding total capacity, which ensures optimal performance and safe operation. To meet users' demand, this unit is specially designed that unit can work even though required total capacity of indoor units exceeds nominal value. Under this condition, actual output capacity of single indoor unit may be attenuated and less than nominal value. We disclaim all responsibility for malfunction caused by users' noncompliance of this installation and operation instructions.

Please read the instructions carefully and follow the requirements below:

10.1 Type of Indoor Unit

Type	Nominal Capacity Kw/h
Wall Mounted	2.6
	3.5
Console	2.0
	2.6
	3.5
	5.3

29. Precaution on Installation

1). Measure the necessary length of the connecting pipe, and make it by the following way.

a. Connect the indoor unit at first, then the outdoor unit.

Bend the tubing in proper way. Do not harm them.

Specially Notice the pipe length/height/dimension of each capacity.

Maximum pipe length

Model	Max. Length	Max. Elevation
HCKU 565 X2R	30	10
HCKU 805 X3R	45	10
HCKU 855 X4R	60	10

Piping sizes

Model	Liquid(mm/inch)	Gas(mm/inch)
ALL Models	6.35(1/4")	9.53(3/8")
	6.35(1/4")	9.53(3/8")

CAUTIONS

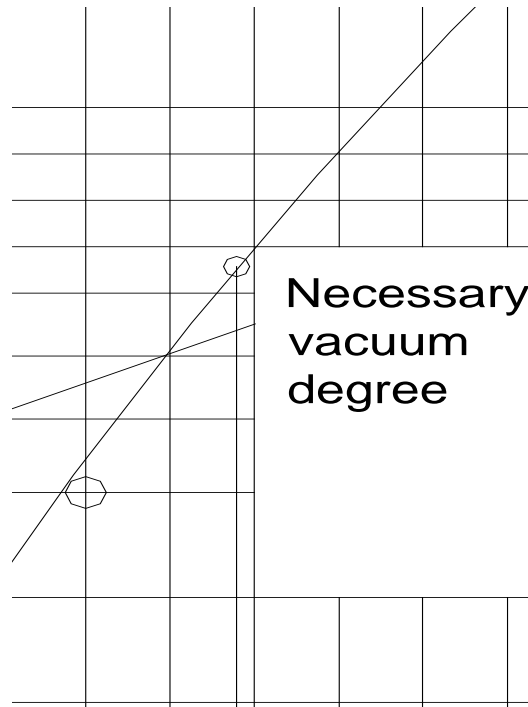
- Daub the surfaces of the flare pipe and the joint nuts with frozen oil, and wrench it for 3~4 rounds
- With hands before fasten the flare nuts.
- Be sure to use two wrenches simultaneously when you connect or disconnect the pipes.

Tubing size	Torque
6.35	1420~1720N.cm(144~176kgf.cm)
9.52	3270~3990N.cm(333~407kgf.cm)
12.7	4950~6030N.cm(504~616kgf.cm)
16	6180~7540N.cm(630~770kgf.cm)
19	9720~11860N.cm(990~12106kgf.cm)

- b. The stop valve of the outdoor unit should be closed absolutely (as original state). Every time you connect it, first loosen the nuts at the part of stop valve, then connect the flare pipe immediately (in 5 minutes). If the nuts have been loosened for a long time, dusts and other impurities may enter the pipe system and may cause malfunction later. So please expel the air out of the pipe with refrigerant before connection.
- c. Expel the air after connecting the refrigerant pipe with the indoor unit and the outdoor unit. Then fasten the nuts at the repair-points.

30. Vacuum dry and leakage checking

- 1) Vacuum Dry: use vacuum pump to change the moisture (liquid) into steam (gas) in the pipe and discharge it out of the pipe to make the pipe dry. Under one atmospheric pressure, the boiling point of water (steam temperature) is 100°C. Use vacuum pump to make the pressure in the pipe near vacuum state, the boiling point of water falls relatively. When it falls under outdoor temperature, the moisture in the pipe will be vaporized.

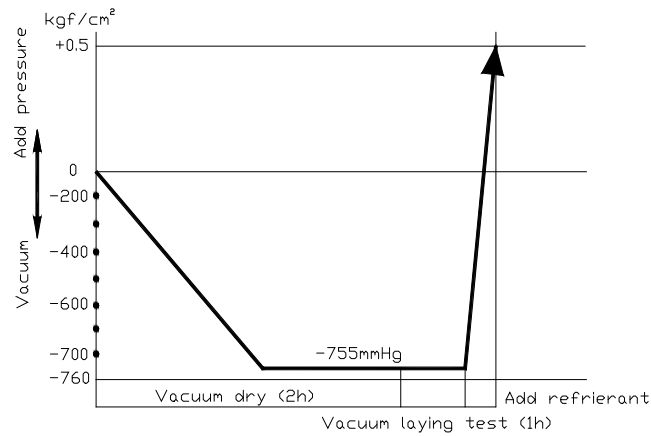


- 2) Vacuum dry procedure

There are two methods of vacuum dry due to different construction environment: common vacuum dry, special vacuum dry.

① Common vacuum dry procedure

- Vacuum dry (for the first time)---connect the all-purpose detector to the inlet of liquid pipe and gas pipe, and run the vacuum pump more than two hours (the vacuum pump should be below -755mmHg)
- If the pump can't achieve below -755mmHg after pumping 2 hours, moisture or leakage point will still exist in the pipe. At this time, it should be pumped 1 hour more.
- If the pump can't achieve -755mmHg after pumping 3 hours, please check if there are some leakage points.
- Vacuum placement test: place 1 hour when it achieves -755mmHg, pass if the vacuum watch shows no rising. If it rises, it shows there's moisture or leakage point.
- Vacuuming from liquid pipe and gas pipe at the same time.
- Sketch map of common vacuum dry procedure.



② Special vacuum dry procedure

● This vacuum dry method is used in the following conditions:

- There's moisture when flushing the refrigerant pipe.
- Rainwater may enter into the pipe.
- Vacuum dry for the first time 2h pumping
- Vacuum destroy for the second time Fill nitrogen to 0.5Kgf/cm2

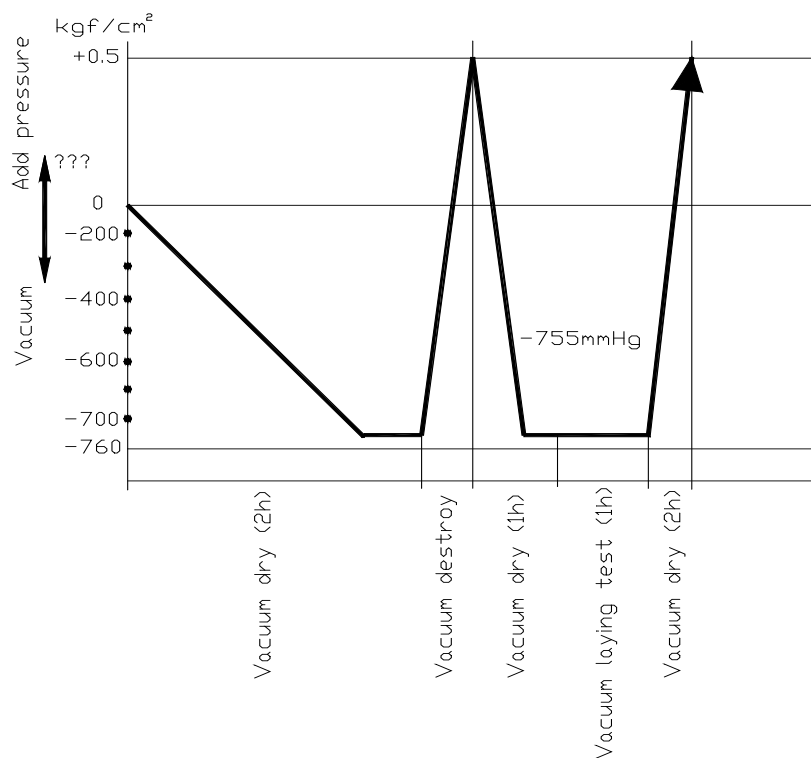
Because nitrogen is for drying gas, it has vacuum drying effect during vacuum destroy. But if the moisture is too much, this method can't dry thoroughly. So, please pay more attention to prevent water entering and forming condensation water.

④ Vacuum dry for the second time.....1h pumping

Determinant: Pass if achieving below -755mmHg. If -755mmHg can't be achieved in 2h, repeat procedure ③ and ④.

⑤ Vacuum placing test 1h

⑥ Sketch map of special vacuum dry procedure



31. Refrigerant charge

1). When the length of the one-way pipe is less than 5m, additional refrigerant charge after vacuuming is unnecessary.

2). When the length of one-way pipe is over 5m, the additional charge quantity is as follows (unit in gram):

Calculation method:

Refrigerant	Liquid diameter (mm)	Unit amount (g/m)	Formula
R410A	Φ6.35	15	(L-5)×15

Remark: 1. The additional refrigerant charge is simply related with the liquid pipe diameter.

2. In the up formula, "L" means the length of liquid pipe between each indoor unit and outdoor unit (unit: m).

32. Water drainage

32.1 Gradient and Supporting

- 1) Keep the drainpipe sloping downwards at a gradient of at least 1/100. Keep the drainpipe as short as possible and eliminate the air bubble.
- 2) The horizontal drainpipe should be short. When the pipe is too long, a prop stand must be installed to keep the gradient of 1/100 and prevent bending. Refer to the following table for the specification of the prop stand.

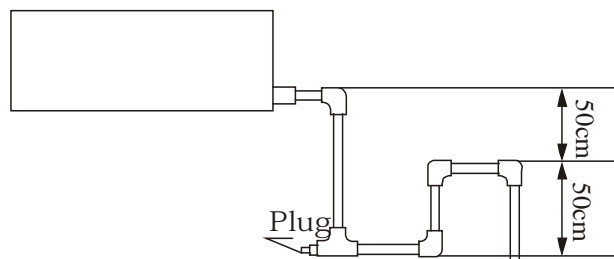
	Diameter	Distance between the prop stands
Hard PVC pipe	25~40mm	1.5~2m

3). Precautions

- ① The diameter of drainpipe should meet the drainage requirement at least.
- ② the drainpipe should be heat-insulated to prevent atomization.
- ③ Drainpipe should be installed before installing indoor unit. After powering on, there is some water in water-receiver plate. Please check if the drain pump can operate correctly.
- ④ All connection should be firm.
- ⑤ Wipe color on PVC pipe to note connection.
- ⑥ Climbing, horizontal and bending conditions are prohibited.
- ⑦ The dimension of drainpipe can't less than the connecting dimension of indoor drainpipe.
- ⑧ Heat-insulation should be done well to prevent condensation.
- ⑨ Indoor units with different drainage type can't share one convergent drainpipe.

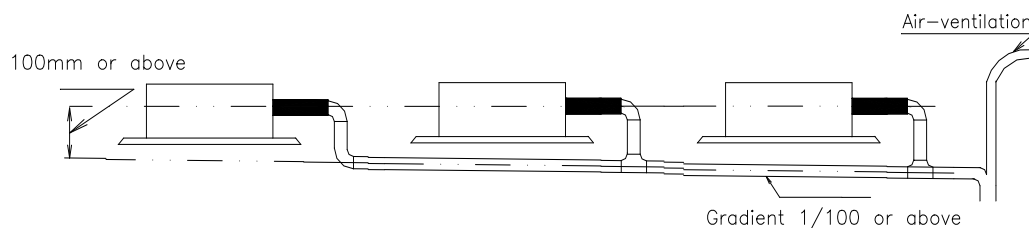
32.2 Drainpipe Trap

- 1) If the pressure at the connection of the drainpipe is negative, it needs to design drainpipe trap.
- 2) Every indoor unit needs one drainpipe trap.
- 3) A plug should be designed to do cleaning.



32.3 Convergent drainage

- 1) The number of indoor units should be as small as possible to prevent the traverse main pipe overlong.
- 2) Indoor unit with drain pump and indoor unit without drain pump should be in different drainage system.



3) Selecting the diameter

Number of connecting indoor units → Calculate drainage volume → Select the diameter

Calculate allowed volume = Total cooling capacity of indoor units (HP) × 2 (l/hr)

	Allowed volume (lean 1/100) (l/hr)	I.D. (mm)	Thick
Hard PVC	~ ≤ 14	φ 25	3.0
Hard PVC	14 < ~ ≤ 88	φ 30	3.5
Hard PVC	88 < ~ ≤ 334	φ 40	4.0
Hard PVC	175 < ~ ≤ 334	φ 50	4.5
Hard PVC	334 < ~	φ 80	6.0

32.4 Drainage test

1) Drainage without drain pump

After finishing drainpipe installation, pour some water into the water receiver plate to check if the water flows smoothly.

33. Insulation work

33.1 Insulation material and thickness

1) Insulation material

Insulation material should adopt the material which is able to endure the pipe's temperature: no less than 70°C in the high-pressure side, no less than 120°C in the low-pressure side (For the cooling type machine, no requirements at the low-pressure side.)

Example: Heat pump type----Heat-resistant Polyethylene foam (withstand above 120°C)

Cooling only type---- Polyethylene foam (withstand above 100°C)

2) Thickness choice for insulation material

Insulation material thickness is as follows:

	Pipe diameter (mm)	Adiabatic material thickness
Refrigerant pipe	Φ6.4—Φ25.4	10mm
	Φ28.6—Φ38.1	15mm
Drainage pipe	Inner diameterΦ20—Φ32	6mm

33.2 Refrigerant pipe insulation

1) Work Procedure

- ① Before laying the pipes, the non-jointing parts and non-connection parts should be heat insulated.
- ② When the gas proof test is eligible, the jointing area, expanding area and the flange area should be heat insulated

2) Insulation for non-jointing parts and non-connection parts

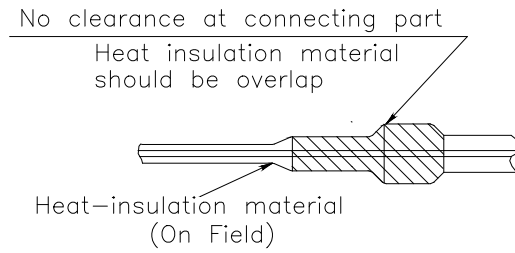
wrong	right	
Gas pipe and liquid pipe should not be put together to insulate	Insulate the gas pipe (cooling only)	Insulate the gas pipe and liquid pipe

For construction convenience, before laying pipes, use insulation material to insulate the pipes to be dealt with, at the same time, at two ends of the pipe, remain some length not to be insulated, in order to be welded and check the leakage after laying the pipes.

3) Insulate for the jointing area, expanding area and the flange area

- ① Insulate for the jointing area, expanding area and the flange area should be done after checking leakage of the pipes

-
- ② Make sure there's no clearance in the joining part of the accessorial insulation material and local preparative insulation material.



33.3 Drainage pipe insulation

- 1) The connection part should be insulated, or else water will be condensing at the non-insulation part.

33.4 Note

- 1) The jointing area, expanding area and the flange area should be heat insulated after passing the pressure test
- 2) The gas and liquid pipe should be heat insulated individually, the connecting part should be heat insulated individually.
- 3) Use the attached heat-insulation material to insulate the pipe connections (pipes' tie-in ,expand nut) of the indoor unit.

34. Test operation

1) The test operation must be carried out after the entire installation has been completed.

2) Please confirm the following points before the test operation.

The indoor unit and outdoor unit are installed properly.

Tubing and wiring are correctly completed.

The refrigerant pipe system is leakage-checked.

The drainage is unimpeded.

The ground wiring is connected correctly.

The length of the tubing and the added stow capacity of the refrigerant have been recorded.

The power voltage fits the rated voltage of the air conditioner.

There is no obstacle at the outlet and inlet of the outdoor and indoor units.

The gas-side and liquid-side stop valves are both opened.

The air conditioner is pre-heated by turning on the power.

3) According to the user's requirement, install the remote controller when the remote controller's signal can reach the indoor unit smoothly.

4) Test operation

Indoor unit

Whether the switch on the remote controller works well.

Whether the buttons on the remote controller works well.

Whether the air flow louver moves normally.

Whether the room temperature is adjusted well.

Whether the indicator lights normally.

Whether the drainage is normal.

Whether there is vibration or abnormal noise during operation.

Part 5

Control System

1.1 Electronic control function

1.1.1 Electric Control working environment.

1.1.1.1 Input voltage: 175~254V.

1.1.1.2 Input power frequency:50Hz.

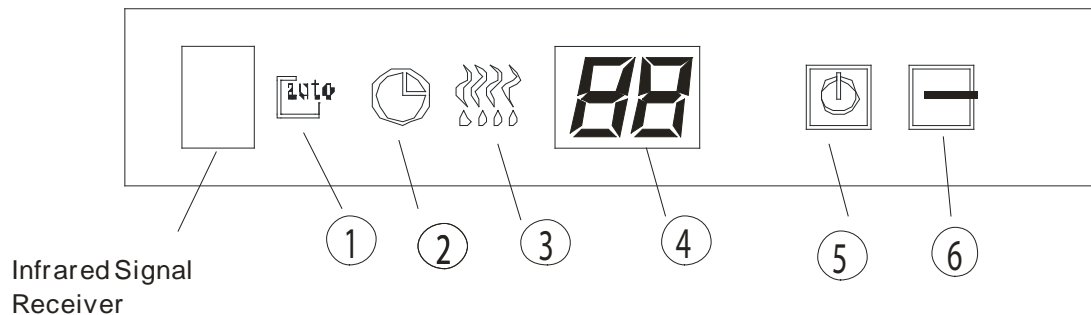
1.1.1.3 Indoor fan normal working amp. is less than 1A.

1.1.1.4 Outdoor fan. Normal working amp. is less than 1.5A.

1.1.1.5 Four-way valve normal working amp. is less than 1A.

1.1.1.6 Swing motor: DC12V.

1.1.2 Indoor unit's display board (only available for wall mounted indoor unit)



1.1.2.1 AUTO indicator

This indicator illuminates when the air conditioner is in AUTO operation.

1.1.2.2 TIMER indicator

This indicator illuminates when TIMER is set ON/OFF.

1.1.2.3 PRE.-DEF. Indicator (For Cooling & Heating models only)

This indicator illuminates when the air conditioner starts defrosting automatically or when the warm air control feature is activated in heating mode.

1.1.2.4 TEMPERATURE indicator

- Usually it displays the temperature settings. When change the setting temperature, this indicator begins to flash, and stops 20 seconds later.
- It displays the room temperature when the air conditioner is in FAN only operation.
- When the unit stops operation, it returns to original factory settings.
- Displays the malfunction code or protection code.

1.1.2.5 OPERATION indicator

This indicator flashes after power is on and illuminates when the unit is in operation.

1.1.2.6 SLEEP indicator

This indicator appears when the unit is in Energy-saving operation.

1.1.3 Digital display in outdoor PCB

There is a digital display tube in outdoor PCB.

1.1.3.1 Digital display tube display function

- In standby , The LED displays “ - - ”,
- In compressor operation, the LED display the frequency,
- In defrosting mode, The LED displays “dF”
- In compressor pre-heating, The LED displays “1 1”
- In protection or malfunction, the LEC displays error code or protection code.

1.1.4 Outdoor unit point check function

There is a check switch in outdoor PCB.

Push the switch SW1 to check the states of unit when the unit is running. The digital display tube will display the follow procedure when push SW1 each time:

Capacity demand→Running mode →revised capacity → fan state →No.1 evaporator pipe temp. →No.2 evaporator pipe temp.→No.3 evaporator pipe temp.→No.4 evaporator pipe temp.→outdoor pipe temp. → Outdoor temp. →discharge gas temp.→current of outdoor unit → No. 1 opening degree of electronic expansion valve → No. 2 opening degree of EXV → No. 3 opening degree of EXV→No. 4 opening degree of EXV→indoor unit number→last protection/error code→capacity demand(cycle)

Explanation for the some display content:

1.1.4.1Running mode:

Display	Corresponding mode
0	Off
1	Cooling mode
2	Heating mode

1.1.4.2Fan state:

Display	Corresponding mode
0	Off
1	Low fan
2	High fan

1.1.4.3Opening degree of EXV:

Opening degree equals the display data times 8;

1.1.4.4Number of indoor unit

The indoor unit that can communicate with outdoor unit normally.

1.1.4.5 Outdoor ambient temp:

Display	Corresponding temp.	Display	Corresponding temp.	Display	Corresponding temp.
15	-7.5	50	10	80	25
16	-7	51	10.5	81	25.5
17	-6.5	52	11	82	26
18	-6	53	11.5	83	26.5
19	-5.5	53	11.5	84	27
20	-5	54	12	85	27.5
21	-4.5	55	12.5	86	28
22	-4	56	13	87	28.5
23	-3.5	57	13.5	88	29
24	-3	58	14	89	29.5
26	-2	59	14.5	90	30
27	-1.5	60	15	91	30.5
28	-1	61	15.5	92	31
29	-0.5	62	16	93	31.5
30	0	63	16.5	93	31.5

Display	Corresponding temp.	Display	Corresponding temp.	Display	Corresponding temp.
31	0.5	63	16.5	94	32
32	1	64	17	95	32.5
33	1.5	65	17.5	96	33
34	2	65	17.5	97	33.5
35	2.5	66	18	98	34
36	3	67	18.5	99	34.5
37	3.5	68	19	10.	35-40
38	4	69	19.5	11.	40-45
39	4.5	70	20	12.	45-50
40	5	71	20.5	13.	50-55
41	5.5	72	21	14.	55-60
42	6	73	21.5	15.	60-65
43	6.5	74	22	16.	65-70
44	7	75	22.5		
45	7.5	75	22.5		
46	8	76	23		
47	8.5	77	23.5		
48	9	78	24		
49	9.5	79	24.5		

1.1.4.6 Outdoor pipe temp.

Refers to 1.1.4.5

1.1.4.7 Current of outdoor unit

Display	Corresponding mode
44	6.0 A
46	6.2 A
54	7.4 A
55	7.6 A
58	7.6 A
62	8.0 A
66	8.6 A
67	8.8 A
68	9.0 A
70	9.2 A
72	9.5 A
76	10.0 A
78	10.2 A
80	10.4 A
82	10.6 A
84	11.0 A
88	11.6 A

92	12.0 A
94	12.2 A

- 1.1.4.8 No. 1 opening degree of electronic expansion valve:
Opening degree equals the display data times 8
- 1.1.4.9 No. 2 opening degree of electronic expansion valve:
Opening degree equals the display data times 8
- 1.1.4.10 No. 3 opening degree of electronic expansion valve:
Opening degree equals the display data times 8
- 1.1.5 Protection
 - 1.1.5.1 3 minutes delay at restart for compressor.
 - 1.1.5.2 Discharge temperature protection of compressor, compressor stops when the temp. of discharge is more than 115°C and last out 5 s. compressor runs when the temp. of discharge is less than 90°C.
 - 1.1.5.3 Temperature protection of compressor top, compressor stops when the temp. of top of compressor is more than 120°C, compressor runs when the temp. of top of compressor is less than 105°C.
 - 1.1.5.4 When AC voltage $\geq 270V$ for 30 seconds, Outdoor Unit stops operation and alarms. When AC voltage $\leq 260V$ for 30 seconds, Outdoor Unit resumes operation.
 - 1.1.3.5 Inverter module Protection , Inverter module Protection itself has a protection function against current, voltage and temperature.
 - 1.1.5.6 Sensor protection at open circuit and breaking disconnection
 - 1.1.5.7 Fan Speed is out of control. When Indoor Fan Speed is too high(higher than High Fan+300RPM)or too low(lower than 400RPM), the unit stops and LED displays failure information and can't return to normal operation automatically.
 - 1.1.5.8 Cross Zero signal error warning. If there is no Cross Zero signals in 4 minutes, the unit stops and LED displays failure information and can't return to normal operation automatically. (only available for wall mounted indoor unit)
 - 1.1.5.9 Current protection: When the current is more than 20A, the compressor stops.
 - 1.1.5.10 Outdoor condenser high temperature protection: Under cooling mode, if $T_3 > 65^\circ C$ for 3 minutes, the compressor will stop. When $T_3 < 52^\circ C$, the protection is not valid.
 - 1.1.5.11 Outdoor low temperature protection: If the outdoor temperature is lower than $-15^\circ C$ for 1 hour, the compressor and fan motor will stop. If the outdoor temperature is higher than $-12^\circ C$ for 10 minutes and the compressor stops operation for 1h, or the outdoor temperature is higher than $5^\circ C$ for 10 minutes, then restart and enter into the prior operation mode.
 - 1.1.5.12 Compressor pre-heating function: When the outdoor temperature is lower than $3^\circ C$ and the compressor stops operation for more than 3 hours, or the outdoor temperature is lower than $3^\circ C$ and the power is just put on, the compressor enters into pre-heating condition. When outdoor temp. is more than $5^\circ C$ or user operate it, pre-heating condition will finish.
- 1.1.6 Fan-only mode
Fan speed is high/mid/low/ Auto
- 1.1.7 Cooling mode
 - 1.1.7.1 Indoor fan keeps running, fan speed can be set in high/mid/low/ Auto:
 - 1.1.7.2 Auto fan at cooling mode: (T=Indoor Temp.-Setting Temp.)

	Condition	Indoor fan speed
Room temp. up	$T < 1.5^\circ C$	Low
	$1.5^\circ C < T < 4^\circ C$	Mid.
	$T > 4^\circ C$	High
Room temp. down	$T > 3^\circ C$	High
	$1^\circ C < T < 3^\circ C$	Mid.
	$T < 1^\circ C$	Low

1.1.7.3 Anti-freezing control to indoor evaporator at cooling mode(T: evaporator temp.)

	Evaporator Temp.	Compressor
	T < 4°C	Off
	T > 8°C	On

1.1.8 Dehumidifying mode

1.1.8.1 the indoor fan is fixed in low speed

1.1.8.2 Low room temperature protection:

When room temperature decreases to below 10°C, indoor fan stop, when room temperature restores to over 12°C, indoor fan start.

1.1.8.3 At dehumidifying mode, the anti-freezing function of the indoor heat exchanger is the same as that of cooling mode.

1.1.9 Heating mode

1.1.9 1 Indoor Fan actions at heating mode

Indoor Fan can be set at HIGH/MID/LOW/AUTO by using a remote controller, but Anti-cold wind function prevails.

Anti-cold wind control function at heating mode

	Condition T= Indoor exchanger temp.	Indoor fan speed
Indoor exchanger temp. up	T < 34°C	Off
	34°C < T < 37°C	Breeze
	37°C < T < 44°C	Low speed
	T > 44°C	Setting fan speed
Indoor exchanger temp. down	T > 38°C	Setting fan speed
	33°C < T < 38°C	Low speed
	24°C < T < 33°C	Breeze
	T < 24°C	Off

1.1.9.2 Auto wind at heating mode

	Condition T=Indoor Temp.-Setting Temp.	Indoor fan speed
Room temp. up	T < 1.5°C	High
	1.5°C < T < 2.5°C	Mid.
	T > 2.5°C	Low
Room temp. down	T < 1.0°C	High
	1.0°C < T < 2.0°C	Mid.
	T > 2.0°C	Low

1.1.9.3 Indoor evaporator high-temperature protection at heating mode

Condition	Compressor
-----------	------------

T= Indoor exchanger temp.	
T<48°C	On
53°C <T<63°C	Decrease frequency of compressor
T>63°C	Off

Defrosting operation (Available for heating only).

1.1.10 Defrost

1.1.10.1 Defrosting condition:

The temperature of outdoor heat exchanger remains consecutively lower than -2°C for more than 40 minutes,

1.1.10.2 Ending condition of defrosting

If one of following conditions is satisfied, end the defrost and turn into heating mode:

- a. The defrost time has reached to 10 minutes.
- b. When the temperature of outdoor heat exchanger rises up to 15°C

1.1.10.3 Defrosting Actions:

- a. Compressor runs.
- b. 4 way valve switches off,
- c. Outdoor fan switches off
- d. Indoor fan running according to anti-cold wind function in heating mode.

1.1.11 Automatic operation mode

The air conditioner automatically selects one of the following operation modes: cooling or fan only according to the temp. difference between room temp. (TA) and set temp. (TS).

TA—TS	Operation mode
TA—TS>2°C	Cooling
-1°C≤TA-TS≤+2°C	Fan-only

1.1.12 Manual switch

1.1.12.1 Mode changes when push this button .

Cooling mode→ Auto mode→Unit off→ Cooling mode

1.1.12.2 At Cooling mode, after 30 minutes cooling operation whose fan speed is set as low, the A/C operates with a setting temp. of 24°C.

1.1.12.3 At auto mode, the A/C operates with a set temp. of 24°C

1.1.13 Timer Function

1.1.13.1 The maximum length of timer is 24 hours and the minimum resolving power is 15 minutes.

1.1.13.2 Timer on: first turn off the A/C, the A/C will be automatically on at the set time.

1.1.13.3 Timer off: first turn on the A/C, the A/C will be automatically off at the set time

1.1.13.4 Timer on/off function(on time is earlier than off time): first turn off the A/C, it will be automatically on at set time, and later be off at the set time, then unit turns on at set time.

1.1.13.5 Timer off/on function(off time is earlier than on time): first turn on the A/C, it will be automatically off at set time, and later be on at the set time, then unit turns off at set time.

1.1.14 Sleep mode(only available for wall mounted indoor unit)

1.1.14.1 It is available at cooling, heating or auto mode.

1.1.14.2 Cooling:

The set temperature rise 1°C per hour. Two hours later, the set temperature will maintain as a constant and the fan speed is kept at low speed.

1.1.14.3 Heating:

The set temperature decrease 1°C per hour. Two hours later, the set temperature will maintain as a constant and the air circulation is kept at low speed (Cold air proof function takes precedence over all).

1.1.14.4 Auto:

The Sleep Mode running function operates in accordance with selected running mode by auto mode.

1.1.14.5 After 7 hours, unit cancels this mode automatically.

J2	On	On	Off	Off
J3	On	Off	On	Off
Stop time	7 hours	8 hours	6 hours	7 hours

1.1.15 Plasma(only available for alfa or corona type wall mounted indoor unit)

Plasma turns on when the indoor fan runs.

Plasma turns off automatically when front panel is opened.

1.1.16 Mode conflict

The indoor units can not work cooling mode and heating at same time.

Heating mode has a priority.

1.1.16.1 Definition

	Cooling mode	Heating Mode	Fan	Off
Cooling mode	No	Yes	No	No
Heating Mode	Yes	No	Yes	No
Fan	No	Yes	No	No
Off	No	No	No	No

No: No mode conflict;

Yes: Mode conflict

1.1.16.2 Unit action

- In case of one Indoor unit working in cooling mode or fan mode, and another indoor unit is set to heating mode, the indoor unit working in cooling mode or fan mode will change to stand by. The outdoor unit will work in heating mode.

In case of one Indoor unit working in heating mode, and another indoor unit is set to cooling mode or fan mode, the indoor unit setting to cooling mode or fan mode will change to stand by.

1.1.17 Auto restart function

In case of a sudden power failure, this function automatically sets the unit to previous settings before the power failure when power returns.

1.1.18 Indoor unit indicator display function

1.1.18 .1 Indoor unit error code explanation: T6-panel

LED3 DEFR	LED2 TIMER	LED1 AUTO	LED0 OPER	Explanation
×	×	○	☆	Modular Protection
○	×	×	☆	Temp Protection of Top Compressor
×	○	×	☆	Outdoor Ambient Sensor Open or Short Circuit
×	○	○	☆	Voltage Too High or Too Low
○	×	○	☆	Mode conflict
○	○	○	☆	Room Sensor Open or Short Circuit
○	○	☆	☆	Indoor Fan Speed Out of Control
☆	×	○	☆	Zero-Cross Signal Error
○	○	○	○	EEPROM Error
☆	☆	☆	☆	Communication Protection Between Indoor & Outdoor
☆	×	☆	☆	Outdoor unit current protection

○—Bright ×—Extinguished ☆—Blink

1.1.18 .2 Indoor unit error code explanation: Elite-panel

LED4: operation LED1: auto LED2: timer LED3: defrost

LED3 DEFR	LED2 TIMER	LED1 AUTO	LED4 OPER	LED state
X	X	○	☆	Inverter module protection
○	X	X	☆	Compressor top temp. protection (PRCOM)
X	○	X	☆	Outdoor sensor open or short circuit
X	○	○	☆	Outdoor voltage protection
○	X	○	☆	Mode conflict
○	○	○	☆	Indoor room temp. sensor or indoor pipe temp. sensor open or short-circuit
○	○	☆	☆	Indoor fan speed out of control
☆	X	○	☆	Zero-cross signal error
X	X	☆	☆	EEPROM error
☆	○	☆	☆	Air-conditioner matching error
☆	☆	☆	☆	Indoor and outdoor communication error (PRTRN)
X	☆	☆	☆	Outdoor low temp. protection
☆	X	☆	☆	Outdoot current protection

○: (bright) X: (extinguished) ☆: (blink)

1.1.18 .3 Indoor unit error code explanation: cassette/duct/ceiling and floor

Operation	Timer	De-frost	Alarm	State
★	X	X	X	Indoor room temp. sensor open or short-circuit
X	X	★	X	Indoor pipe temp. sensor open or short-circuit
X	★	X	X	Indoor and outdoor communication error
X	X	X	★	Water level alarm
★	★	X	X	EEPROM error
★	X	X	●	Inverter module protection
★	●	X	X	Outdoor sensor open or short circuit
★	●	X	●	Outdoor voltage protection
★	X	●	X	Compressor top temp. protection
★	X	●	●	Mode conflict
★	X	★	★	Outdoor current protection

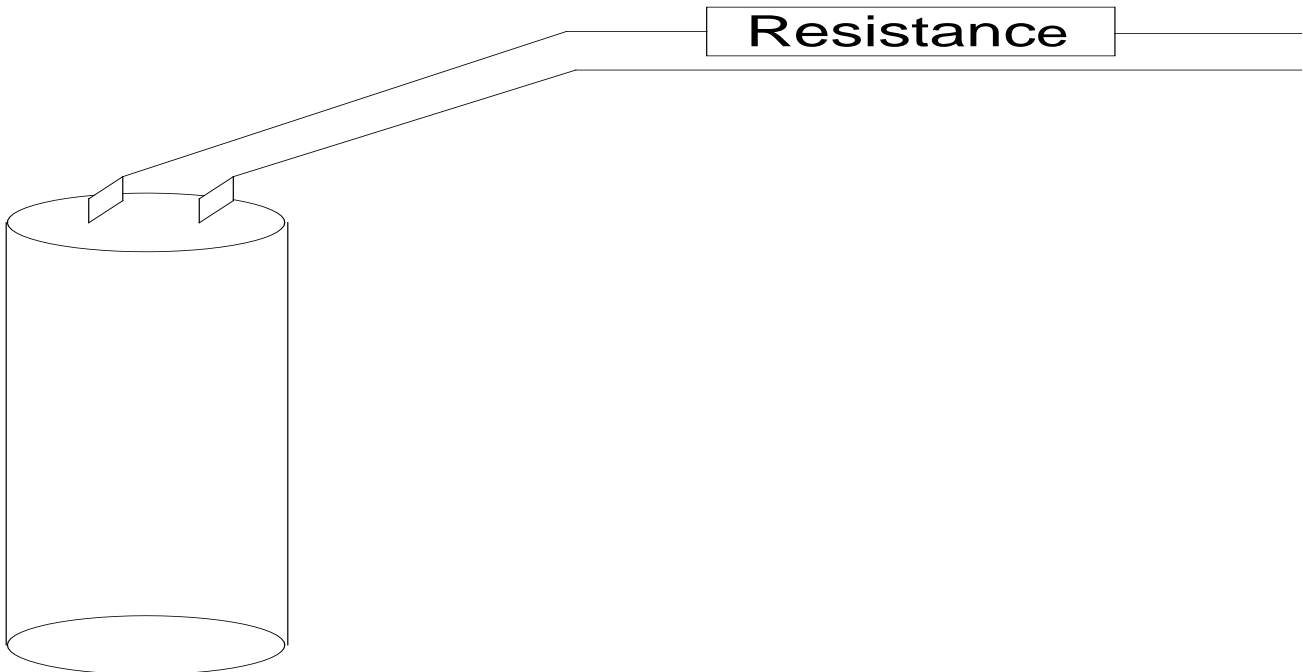
★ flash, ● light, X extinguished.

1.2.Troubleshooting

1.2.1 Safety

Because of there are capacitors in PCB and relative circuit in outdoor unit, even shut down the power supply, electricity power still are kept in capacitors, do not forget to discharge the electricity power in capacitor.

The value of resistance is about 1500 ohms to 2000 ohms



The voltage in P3 and P4 in outdoor PCB is high voltage about 310V

The voltage in P5 and P6 in outdoor PCB is high voltage about 310V

1.2.2 LED error code display for outdoor unit

Display	LED STATUS
E0	EEPROM error
E1	No 1 Indoor units pipe temp. sensor or connector of pipe temp. sensor is defective
E2	No 2 Indoor units pipe temp. sensor or connector of pipe temp. sensor is defective
E3	No 3 Indoor units pipe temp. sensor or connector of pipe temp. sensor is defective
E4	Outdoor units temp. sensor or connector of temp. sensor is defective
E5	Compressor volt protection
E6	No 4 Indoor units pipe temp. sensor or connector of pipe temp. sensor is defective
E7	Indoor and outdoor communication error
P0	Compressor top protection against temperature
P1	High pressure protection
P2	Low pressure protection
P3	Compressor current protection
P4	Inverter module protection
P5	Outdoor low temp. protection
P6	Condenser high-temperature protection

35. Control device

2.1 Remote Controller

2.1.2 R5114/BGE,R5114/BGCE

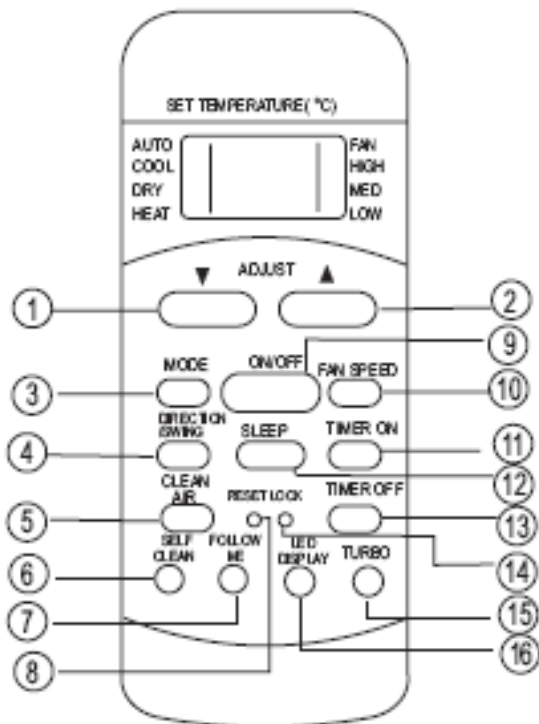
The model R5114/BGE,R5114/BGCE ,for hereinafter type:HKEU 265 XR, HKEU 355 XR

The below is R5114BGE, R5114/BGCE remote controller

Remote Controller Specification

Model	R5114BGE,R5114/BGCE
Rated voltage	3.0V(Dry batteries R03/LR03×2)
Lowest voltage of CPU mitting signal	2.0V
Signal receiving range	8m(whenusing3.0voltage,itGets11m)
Environment	-5~60°C

Features of Remote controller buttons



-
- ① **TEMP Button ▼** : Push this button to decrease the indoor temperature setting in 1°C increments to 17°C.
 - ② **TEMP Button ▲** : Push this button to increase the indoor temperature setting in 1°C increments to 30°C.
 - ③ **MODE Button**: Each time the button is pressed, the operation mode is selected in the sequence of the following:



▲ **NOTE:** Heat mode is for cooling & heating models only.

- ④ **DIRECTION/SWING Button**: Press this button once and quickly to change the air flow direction of the horizontal louver a little. The moving angle of the louver is 6° for each press. Press the button without releasing for 2 more seconds, the horizontal louver would swing automatically. Press it again, it would stop moving. When the louver swing/moving at a certain position which would affect the cooling and heating effect of the air conditioner, it would automatically change the swing direction (upward or downward).
- ⑤ **CLEAN AIR Button(on some models)**: When push this button, the Ionizer/Plasma Dust Collector(depending on models) is energized and will help to remove pollen and impurities from the air.
- ⑥ **SELF CLEAN(AUTO CLEAN)Button**: Press this button under COOL or DRY mode, the self clean function is activated. Press it again will stop the operation and turn off the unit.
- ⑦ **FOLLOW ME Button(on some models)**: Push this button to initiate the Follow Me feature, the remote display is actual temperature at its location. The remote control will send this signal to the air conditioner every 3 minutes interval until press the Follow Me button again. The air conditioner will beep to indicate the Follow Me feature has ended if it does not receive the signal during any 7 minute interval.
- ⑧ **RESET Button**: Once the recessed RESET button is pressed, all of the current settings will be cancelled and the controller will return to the initial settings.
- ⑨ **ON/OFF Button**: Press this button to start the indoor unit. Press again to stop the unit.
- ⑩ **FAN SPEED Button**: Press the button to select the Fan speed in the sequence: AUTO, LOW, MED and HIGH. Each time the button is pressed, the fan speed selection is shifted.