Packaged air conditioning unit condensed by air model RTC-07K to 30K

YORK
A JOHNSON CONTROLS COMPANY

Ref.: Y-R70130 0606

Technical information

ACCORDING TO ISO 9001 STANDARDS
AENOR
Empresa Registrada
ER-0028/1991

ACCORDING TO ISO 14001 STANDARDS
AENOR
Gestión Ambiental
CGM-97/013

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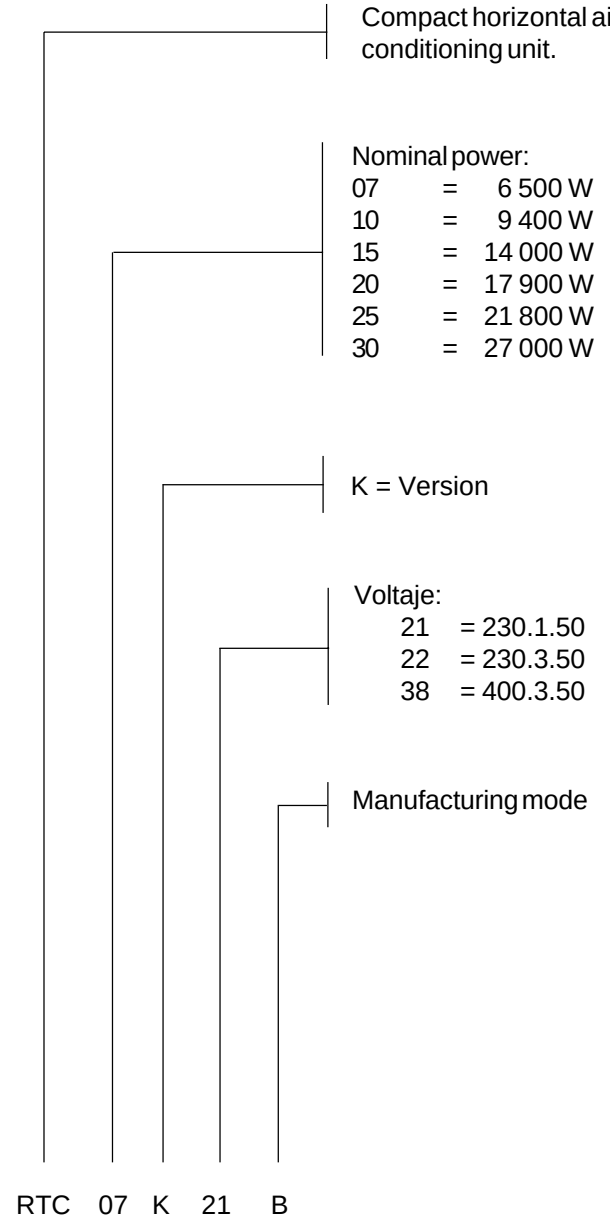
General information

General description

The RTC model air conditioners are packaged type compact horizontal units, condensed by air.
They can be installed either indoors or outdoors, and the fans are of the centrifugal type, and therefore accept ducts for channelling air.

Nomenclature



Technical specifications

Mechanical specifications

Compressor
Of the vertical hermetic type, mounted on shock absorbers and with internal motor protection and an electric heater for heating the oil.

Coils
Made of copper tubing and aluminium fins. Located within the cabinet and completely protected against damage during transportation or installation.

Indoor and outdoor fans
Of the centrifugal type with directly fitted motor or belt drive. These fans have sufficient available pressure for the installation of optional ducts and accessories.

Casing
Made of galvanized steel sheeting and finished with oven-polymerized powdered paint. This allows installing outdoors. Internally, in the evaporating unit area, it is coated with insulation to avoid condensation. These units include a galvanized sheeting tray with corresponding drain for collection of condensates from the evaporating coil.

Cooling circuit
Made of welded copper tubing. All units are supplied with a corresponding optimized refrigerant charge and having surpassed the maximum pressure and leak-tightness tests. Refrigerant expansion, which takes place in the internal section, is carried out by means of a sized hole and a distributor. The circuit includes: high and low pressure switches and suction and discharge pressure intakes.

Refrigerant
These units are manufactured with R-407C.

Electric panel
Accessible directly from the outside. Includes connecting strip, protectors, electronic board and probes, power supply contactors, operating relay, phase control relay and transformer. In compliance with European regulations currently in force.

Phase control relay
The electric panel of the unit introduces a sequence and phase failure detector. In the case of detecting a phase sequence other than R-S-T, or a phase fails once the unit is in operation, this detector, by means of an internal volt-free contact, disconnects power supply to the main board of the unit, leaving it inoperative.

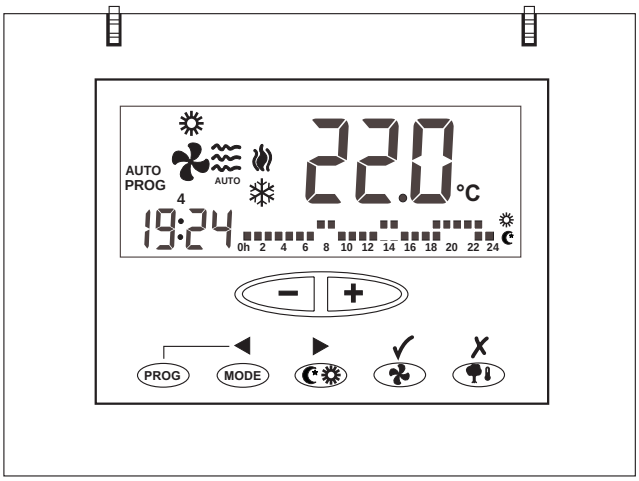
Electric heater (optional)
Of the exposed wire type to allow fast heat dispersion, avoiding temperature inertia that could affect the components. Equipped with a contactor and thermal protectors: automatic and manual reset.

Thermostat
The CRT-74 to 304G units include, as standard equipment, the electromechanical DPC-1 thermostat.
To connect the thermostat to the board, 10x0.22mm^2 screened communication cable should be used.

Ambient thermostat DPC-1

Programmable digital thermostat with communication
This thermostat was designed to give close control of the ambient temperature and graphic information regarding the mode it is currently operating in. This control unit, in accordance with the differential between the programmed temperature and the ambient temperature, responds varying the on/off cycles.
The liquid crystal display (LCD) normally indicates the ambient temperature, operating mode and whether the system is in heat or cool.
It allows selecting different set point temperatures for cool and heat, besides choosing between °C and °F on the dis-

play. Fan operation can be in continuous or automatic mode, off or in operation along with the compressor.



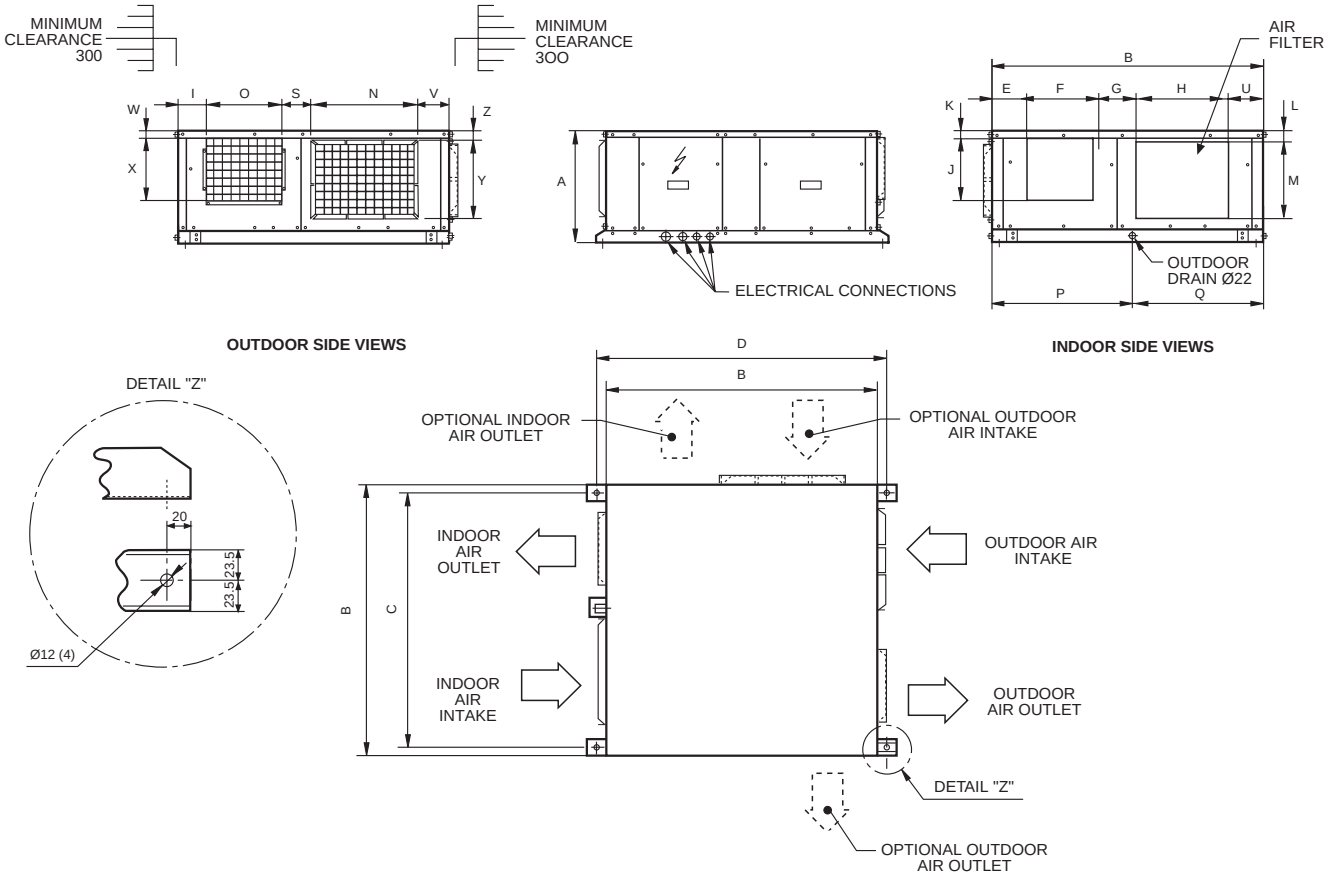
Physical data

Model			RTC-07K	RTC-10K	RTC-15K	RTC-20K	RTC-25K	RTC-30K
Compressor	Amount		1					
	Nominal power	kW	2.7	3.2	4.7	5.2	7.9	9.2
	Power supply	V.ph.Hz.	230.1.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50
Outdoor coil	Amount		1					
	Tubing depth x height		5 x 18	5 x 21	5 x 21	5 x 21	5 x 24	5 x 24
	Fins per inch		12	12	12	12	14	14
	Front area	m^2	0.32	0.41	0.51	0.65	0.71	0.87
	Tubing diameter	mm (Inches)	9,52 (3/8")					
Indoor coil	Amount		1					
	Tubing depth x height		3 x 18	4 x 21	4 x 21	4 x 21	3 x 24	4 x 24
	Fins per inch		12					
	Front area	m^2	0.22	0.25	0.37	0.47	0.61	0.73
	Tubing diameter	mm (inches)	9.52 (3/8")					
Outdoor fan motor	Amount		1					(1)
	Turbine diameter	mm	270	320	320	320	320	320
	Turbine width	mm	270	240	240	320	240	320
	Nominal power	kW	0.58	0.99	0.99	1.1	1.1	1.5
	Motor nominal r.p.m.		900	900	900	900	900	1 420
	Power supply	V.ph.Hz.	230.1.50	230.1.50	230.1.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50
Indoor fan motor	Amount		1				(1)	(1)
	Turbine diameter	mm	240	270	320	320	320	320
	Turbine width	mm	240	200	240	240	240	320
	Nominal power	kW	0.38	0.54	0.95	0.99	1.1	1.1
	Motor nominal r.p.m.		900	900	900	900	1 410	1 410
	Power supply	V.ph.Hz.	230.1.50	230.1.50	230.1.50	230.3.50 400.3.50	230.3.50 400.3.50	230.3.50 400.3.50
Refrigerant load R-407C		kg	1.93	3.00	3.50	5.85	5.9	6.3
Approximate nett weight		kg	154	180	214	265/275	345	405
Approximate gross weight		kg	165	195	230	285/295	365	440
Dimensions with standard packing		cm	114x120x61	119x125x69	135x141x69	167x161x99	176x180x78	181x216x78

(1) Belt drive

General dimensions mm

RTC-07K, 10K, 15K and 20K



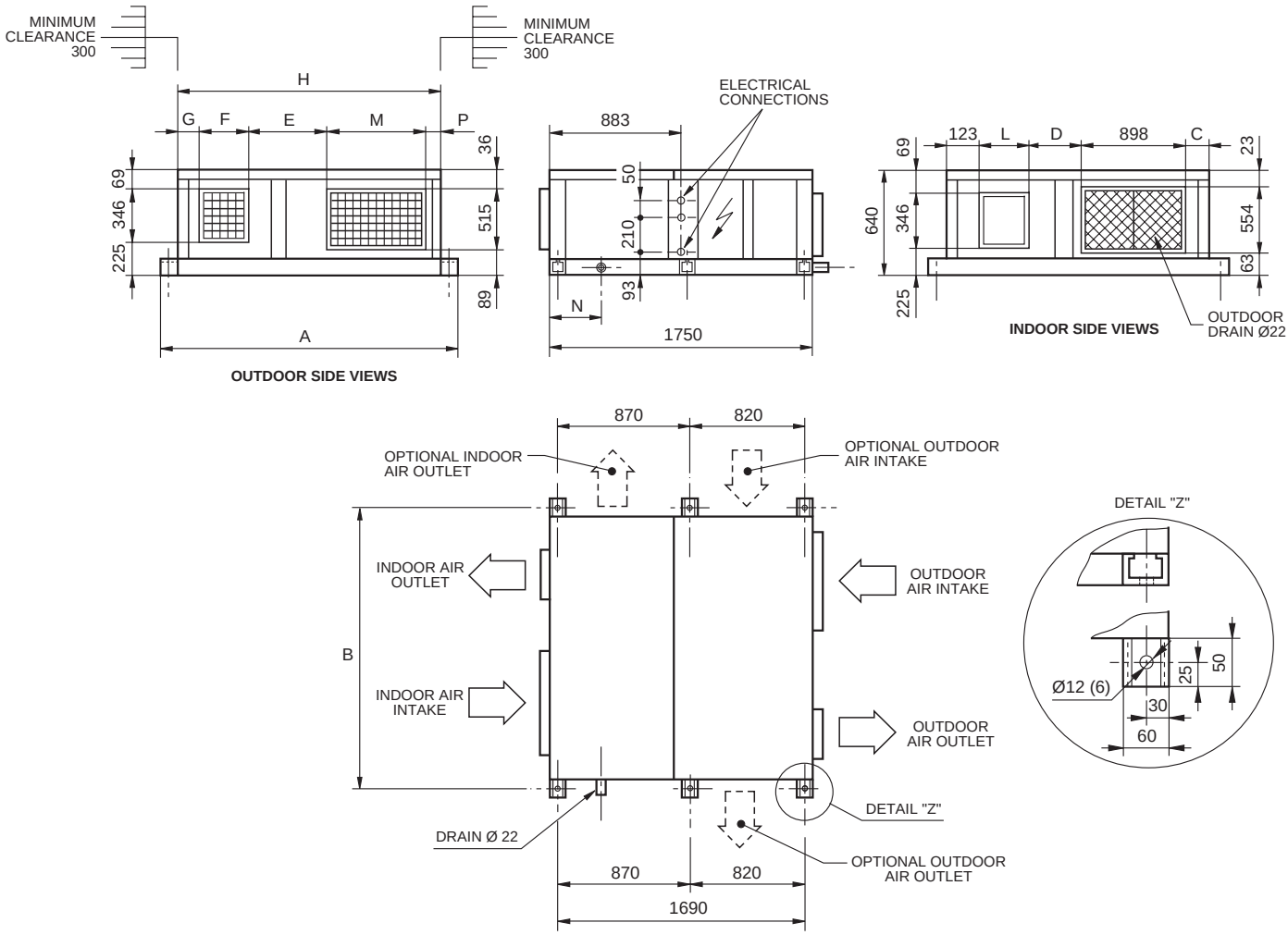
Note:

1- The solid arrows indicate the standard air intakes and outlets. The dotted arrows are the intakes and outlets that can be obtained at job site.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	S	U	V	W	X	Y	Z
RTC-07K	478	1100	1055	1150	117	302	136	425	82	262	72,5	60	300	425	347	600	500	165	120	82	18	305	342	40
RTC-10K	555	1150	1105	1200	130	270	210	375	82	294	101	50	420	404	323	600	550	220	165	117	20	353	430	40
RTC-15K	555	1310	1265	1360	140	316	154	600	87	346	24	45	425	554	323	600	710	225	100	121	20	353	430	40
RTC-20K	585	1570	1525	1620	140	316	210	750	85	346	54	80	420	770	407	622	950	206	154	102	50	353	430	70

General dimensions mm

RTC-25K and 30K



Note:

1- The solid arrows indicate the standard air intakes and outlets. The dotted arrows are the intakes and outlets that can be obtained at job site.

2- If a dilter-holder with a filter is applied to air suction, see the dimensions of the duct in the information that corresponds to this accessory.

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
RTC-25K	1 750	1 700	81	233	442	315	133	1 650	870	1 690	1 750	315	667	348	93
RTC-30K	2 150	2 100	130	499	648	400	138	2 050	890	1 710	1 770	400	732	368	132

Nominal capacities

Unit	Cooling capacity W	Consumption W
RTC-07K	6 700	3 600
RTC-10K	9 500	4 600
RTC-15K	14 100	6 900
RTC-20K	17 900	7 600
RTC-25K	21 800	10 400
RTC-30K	27 000	12 300

Test conditions

Voltage	Outdoor temp. °C		Indoor temp. °C	
	DB	WB	DB	WB
230 or 400	35	24	27	19

Correcting factors

Correcting factors for cooling capacities in accordance with indoor and outdoor temperatures.

Indoor intake air temp. °C WB interior	Outdoor air intake temperature °C DB					
	19	25	30	35	40	46
23	-	1.20	1.15	1.11	1.06	1
19	1.10	1.08	1.04	1	0.96	0.90
14	0.88	0.86	0.84	0.82	0.79	0.74

Note: For indoor intake temperatures DB to the indoor coil betwen 21 and 32°C. WB-wet bulb. DB-dry bulb.

Cooling capacity correcting factors for flows that differ from the nominal flows of the evaporating coil.

Flow %	80	90	100	110	120	130
Total capacity	0.960	0.980	1	1.016	1.032	1.046
Sensible capacity	0.945	0.973	1	1.038	1.075	1.118
Comp. absorbed power	0.980	0.990	1	1.009	1.017	1.025

Correction of the real temperature of air intake to the condensing coil in °C, for flows that differ from the nominal values.

Flow %	70	80	90	100	110	120	130
Correction in °C on real temperature of air intake to the outdoor coil	5	3	1.5	0	-1	-2	-2.5

Nominal flows

Model	Indoor fan m^3/h	Nominal pressure available Pa	Outdoor fan m^3/h	Nominal pressure available Pa
RTC-07K	1 970	25	2 380	50
RTC-10K	2 430	37	3 450	50
RTC-15K	4 000	50	4 350	50
RTC-20K	4 485	50	5 255	50
RTC-25K	5 000	62	5 200	50
RTC-30K	5 850	62	6 400	50

For other flows, apply the correcting factors of the corresponding table.

Sensible cooling capacities

Model	Dry temperature, outdoor air °C (DB)	Humid temperature, air intake, °C (WB)	Total capacity	Sensible capacity (W)				Compressor absorbed power
				Dry intake air temperature to coil, °C (DB)				
				22	24	27	29	
			W	W	W	W	W	kW
RTC-07K	25	22	7 800	2 318	3 422	5 079	6 185	2.27
		19	7 020	3 705	4 809	6 466	7 020	2.38
		17	6 500	5 164	6 268	6 500	6 500	2.49
	35	22	7 215	2 127	3 231	4 888	5 992	2.57
		19	6 500	3 518	4 623	6 279	6 500	2.71
		17	5 980	4 473	5 578	5 980	5 980	2.84
	45	22	6 500	1 913	3 017	4 674	5 778	2.98
		19	5 850	3 305	4 409	5 850	5 850	3.11
		17	5 330	4 706	5 330	5 330	5 330	3.25
RTC-10K	25	22	11 280	3 382	4 857	7 069	8 546	2.72
		19	10 152	5 230	6 705	8 917	10 152	2.85
		17	9 400	7 183	8 658	9 400	9 400	2.97
	35	22	10 434	3 101	4 576	6 789	8 264	3.07
		19	9 400	4 957	6 432	8 644	9 400	3.23
		17	8 648	6 457	7 932	8 648	8 648	3.39
	45	22	9 400	2 788	4 263	6 476	7 951	3.56
		19	8 460	4 645	6 119	8 332	8 460	3.72
		17	7 708	6 513	7 708	7 708	7 708	3.88
RTC-15K	25	22	16 800	4 985	7 399	11 020	13 437	3.99
		19	15 120	8 017	10 431	14 052	15 120	4.18
		17	14 000	11 205	13 619	14 000	14 000	4.37
	35	22	15 540	4 573	6 988	10 609	13 023	4.52
		19	14 000	7 616	10 030	13 651	14 000	4.75
		17	12 880	10 076	12 490	12 880	12 880	4.99
	45	22	14 000	4 114	6 528	10 149	12 563	5.23
		19	12 600	7 158	9 572	12 600	12 600	5.47
		17	11 480	10 220	11 480	11 480	11 480	5.70

Sensible cooling capacities

Model	Dry temperature, outdoor air °C (DB)	Humid temperature, air intake, °C (WB)	Total capacity	Sensible capacity (W)				Compressor absorbed power
				Dry intake air temperature to coil, °C (DB)				
				22	24	27	29	
			W	W	W	W	W	kW
RTC-20K	25	22	21 480	6 463	9 189	13 279	16 009	4.39
		19	19 332	10 702	13 429	17 519	19 332	4.60
		17	17 900	13 490	16 216	17 900	17 900	4.81
	35	22	19 869	5 925	8 652	12 742	15 468	4.97
		19	17 900	10 169	12 895	16 985	17 900	5.23
		17	16 468	12 115	14 841	16 468	16 468	5.49
	45	22	17 900	5 326	8 053	12 143	14 869	5.75
		19	16 110	9 559	12 286	16 110	16 110	6.02
		17	14 678	12 209	14 678	14 678	14 678	6.28
RTC-25K	25	22	26 160	8 028	10 864	15 117	17 957	6.63
		19	23 544	11 553	14 389	18 642	21 482	6.95
		17	21 800	15 332	18 168	21 800	21 800	7.26
	35	22	24 198	7 352	10 187	14 441	17 276	7.50
		19	21 800	10 897	13 733	17 987	20 822	7.90
		17	20 056	13 079	15 915	20 056	20 056	8.29
	45	22	21 800	6 600	9 436	13 689	16 525	8.69
		19	19 620	10 151	12 986	17 240	19 620	9.08
		17	17 876	13 732	16 567	17 876	17 876	9.48
RTC-30K	25	22	32 400	9 907	13 518	18 934	22 550	7.77
		19	29 160	15 524	19 135	24 551	28 169	8.14
		17	27 000	19 209	22 820	27 000	27 000	8.51
	35	22	29 970	9 074	12 685	18 101	21 712	8.79
		19	27 000	14 700	18 311	23 727	27 000	9.25
		17	24 840	17 274	20 884	24 840	24 840	9.72
	45	22	27 000	8 148	11 759	17 176	20 787	10.18
		19	24 300	13 761	17 372	22 788	24 300	10.64
		17	22 140	17 237	20 848	22 140	22 140	11.10

Indoor fan services

Model	Available static pressure		Air flow		Absorbed power
	mm WG	Pa	m^3/h	m^3/s	W
RTC-07K	8	78.4	1 615	0.45	395
	6	58.8	1 760	0.49	403
	4	39.2	1 865	0.52	410
	2	19.6	2 010	0.56	423
	0	0	2 120	0.59	433
RTC-10K	10	98	2 100	0.58	447
	8	78.4	2 200	0.61	455
	6	58.8	2 300	0.64	373
	4	39.2	2 410	0.67	480
	2	19.6	2 530	0.70	500
	0	0	2 645	0.73	518
RTC-15K	12	117.6	3 300	0.92	969
	10	98	3 600	1.00	990
	8	78.4	3 790	1.05	1018
	6	58.8	4 000	1.11	1055
	4	39.2	4 070	1.13	1078
	2	19.6	4 170	1.16	1087
	0	0	4 190	1.15	1 100
RTC-20K	20	196	3 620	1	900
	16	156.8	4 015	1.12	9 80
	12	117.6	4 305	1.96	1 050
	10	98.0	4 360	1.21	1 080
	8	78.4	4 380	1.22	1 110
	6	58.8	4 455	1.24	1 140
	4	39.2	4 525	1.26	1 170
	2	19.6	4 610	1.28	1 205
	0	0	4 710	1.31	1 240
RTC-25K	16	156.8	4 150	1.15	940
	12	117.6	4 600	1.27	1 050
	10	98	4 800	1.33	1 100
	8	78.4	4 975	1.38	1 160
	6.3	61.7	5 100	1.41	1 220
	4	39.2	5 330	1.48	1 290
	2	19.6	5 500	1.52	1 345
	0	0	5 625	1.56	1 390
RTC-30K	16	156.8	4 850	1.34	1 220
	12	117.6	5 380	1.49	1 365
	10	98	5 500	1.52	1 430
	6.3	61.7	5 950	1.65	1 585
	4	39.2	6 150	1.70	1 680
	2	19.6	6 390	1.77	1 750
	0	0	6 500	1.80	1 810

Outdoor fan services

Model	Available static pressure		Air flow		Absorbed power
	mm WG	Pa	m^3/h	m^3/s	W
RTC-07K	10	98	2 020	0.56	445
	8	78.4	2 190	0.61	460
	6	58.8	2 315	0.64	470
	4	39.2	2 430	0.68	486
	2	19.6	2 550	0.71	500
	0	0	2 665	0.74	514
RTC-10K	10	98	3 180	0.88	900
	8	78.4	3 310	0.92	930
	6	58.8	3 410	0.95	950
	4	39.2	3 400	0.98	980
	2	19.6	3 625	1.00	1003
	0	0.0	3 735	1.04	1033
RTC-15K	10	98.0	3 970	1.10	9000
	8	78.4	4 170	1.16	1070
	6	58.8	4 320	1.20	1142
	4	39.2	4 425	1.23	1180
	2	19.6	4 520	1.26	1205
	0	0	4 635	1.29	1235
RTC-20K	16	156.8	4 410	1.23	990
	10	98.0	4 970	1.38	1 130
	8	78.2	5 100	1.42	1 170
	6	58.7	5 210	1.45	1 205
	4	39.1	5 317	1.48	1 235
	2	19.6	5 428	1.51	1 275
	0	0.0	5 525	1.54	1 305
RTC-25K	14	137.2	4 500	1.25	1 130
	10	98	4 800	1.33	1 200
	8	78.4	4 910	1.36	1 250
	6	58.8	5 050	1.40	1 275
	5.1	50	5 200	1.44	1 295
	4	39.2	5 250	1.45	1 320
	2	19.6	5 350	1.48	1 335
	0	0	5 450	1.51	1 388
RTC-30K	14	137.2	5 490	1.52	1 355
	10	98	5 980	1.66	1 440
	8	78.4	6 200	1.72	1 500
	5.1	50	6 400	1.77	1 555
	4	39.2	6 480	1.8	1 585
	2	19.6	6 600	1.83	1 600
	0	0	6 700	1.86	1 665

Electrical characteristics

Model	Power supply V.ph.Hz.		Consumption A				Power supply cable section (2)	Automatic switch (K curve) (1)
	Compressor	Fan	Compressor		Outdoor fan	Indoor fan		
		Outd. - Ind.	Start	Nominal	Start	Start	mm²	A
RTC-07K	230.1.50	230.1.50	72	13	2	1.9	4	25
RTC-10K	230.3.50		90	9.6	4.5	2	4	25
	400.3.50		45	5.5	4.5	2	2.5	20
RTC-15K	230.3.50		124	13.1	5.4	5.1	6	32
	400.3.50		62	7.5	5.4	5.1	4	25
RTC-20K	230.3.50	230.3.50	165	16.7	4.9	5.1	10	40
	400.3.50	400.3.50	79	9.6	2.8	2.9	4	25
RTC-25K	230.3.50	230.3.50	170	22.5	5.1	4.9	10	40
	400.3.50	400.3.50	77	12.9	2.9	2.8	4	25
RTC-30K	230.3.50	230.3.50	215	26.1	7.2	4.6	10	50
	400.3.50	400.3.50	80	15	4.1	2.6	6	32

Important: The dimensioning of the automatic switch and power supply line sections is orientetive and should be corrected in accordance with job site conditions, lenght between units and legislation in force.

Notes: 1.- K Curve (DIN, VDE 0660-104) 2.- Based on copper conductors.

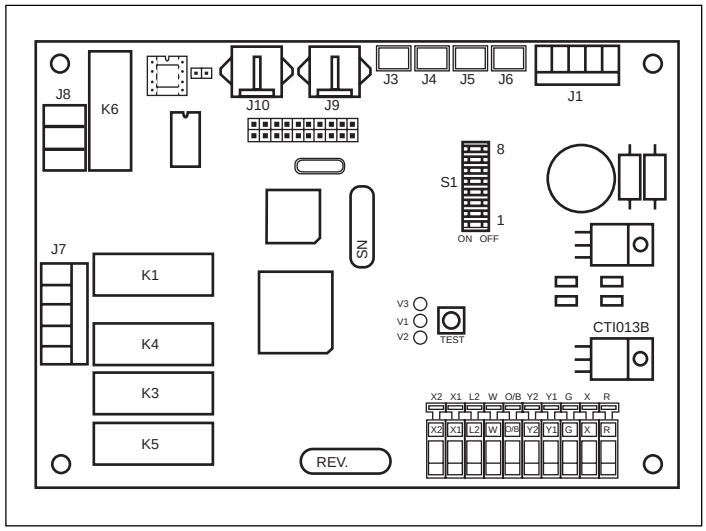
Limits of use

Voltage limits				Air intake temperature to the outdoor coil DB		Air intake temperature to the indoor coil	
Nominal at 230 V		Nominal at 400 V					
Maximum	Minimum	Maximum	Minimum	Maximum °C	Minimum °C	Maximum °C	Minimum °C
254	198	436	342	46	19	22	14

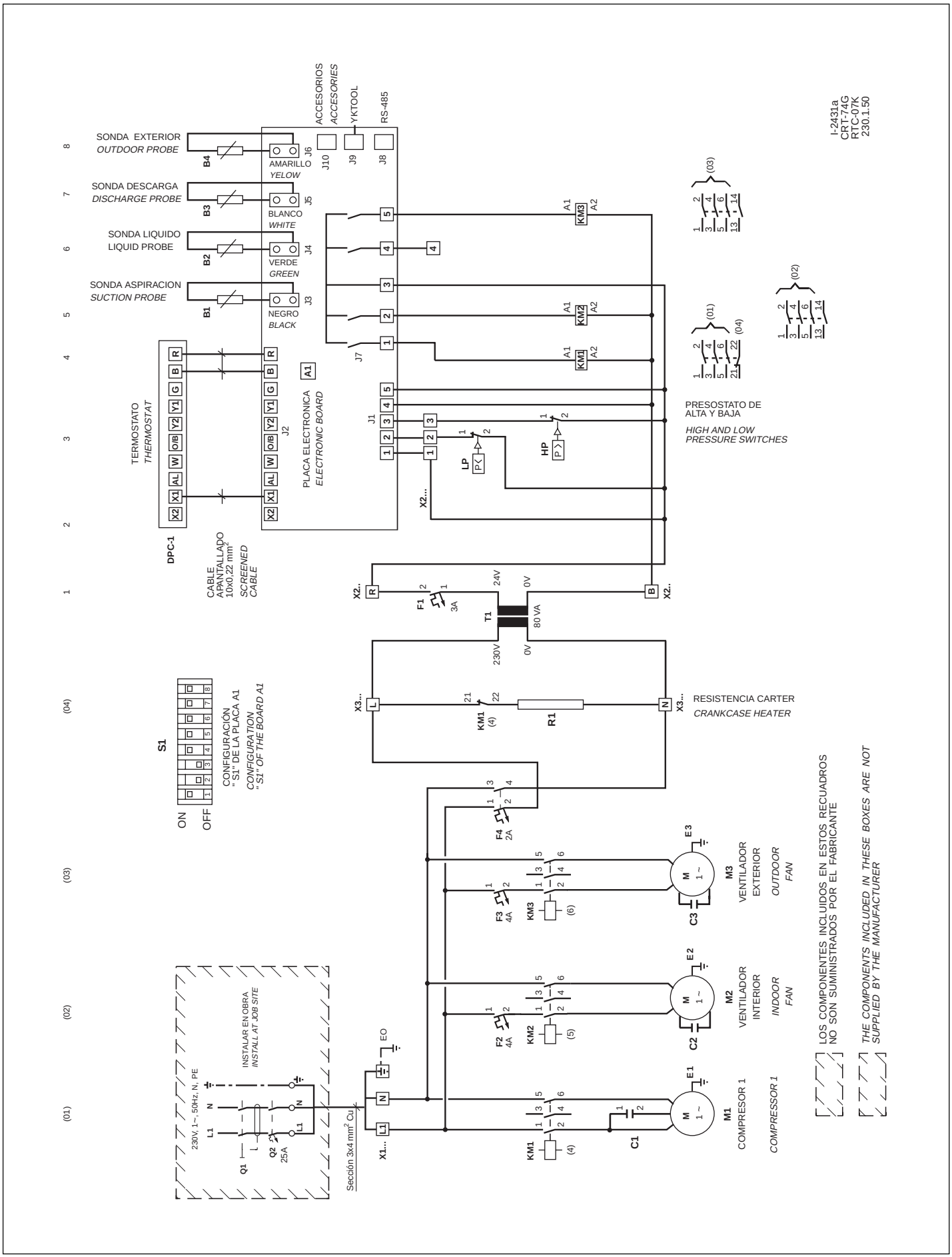
Notes: WB - wet bulb. DB - dry bulb.

Control board

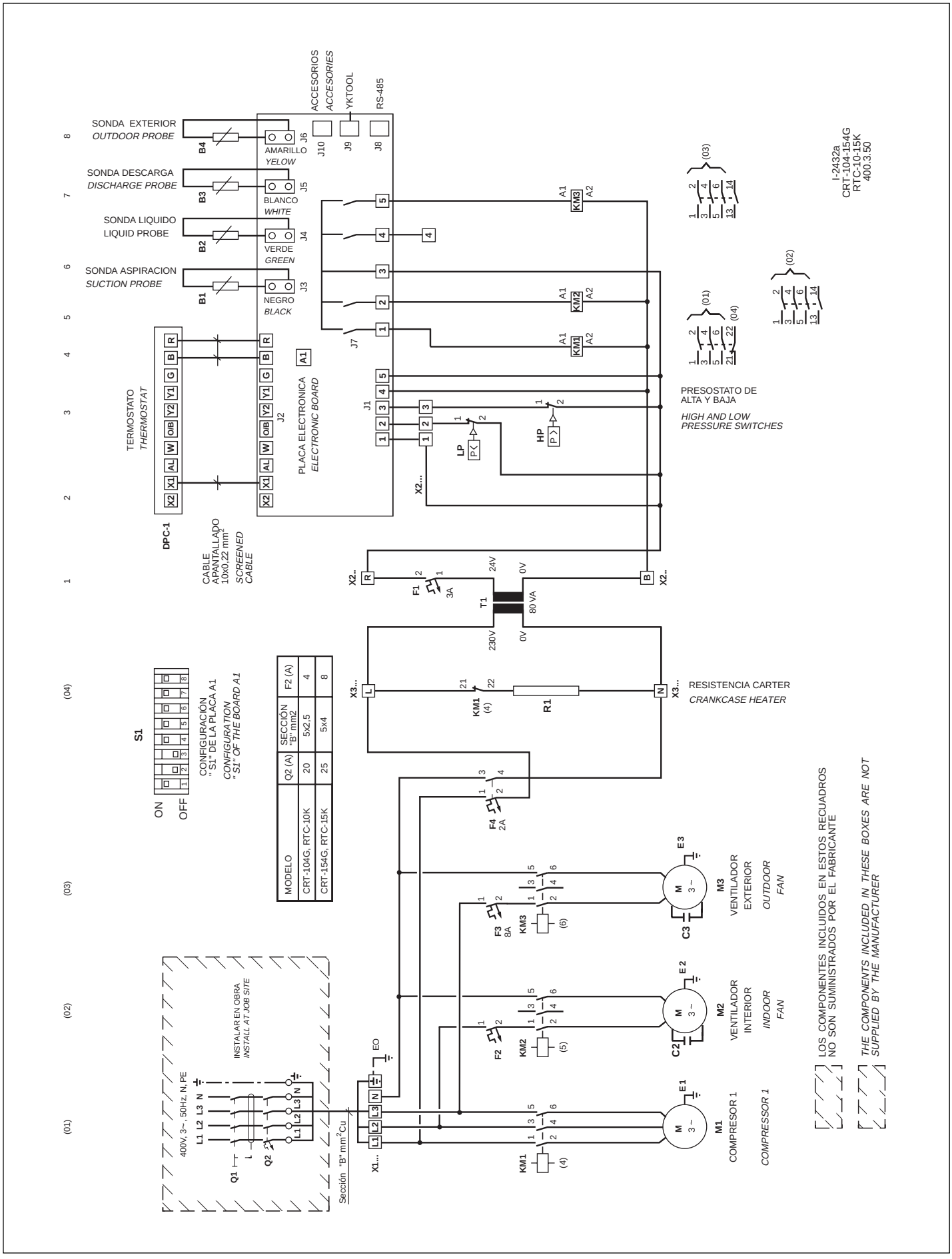
The control board of these units is common to both the cool only as well as the heat pump units. Equipment control is carried out by means of software that is resident in the board. System operation is carried out in accordance with the position of the microswitches in the main board. There are also variations in the control algorithm, depending upon the accessories the board detects installed in the equipment.
For further details please see Technical Information of the control board.



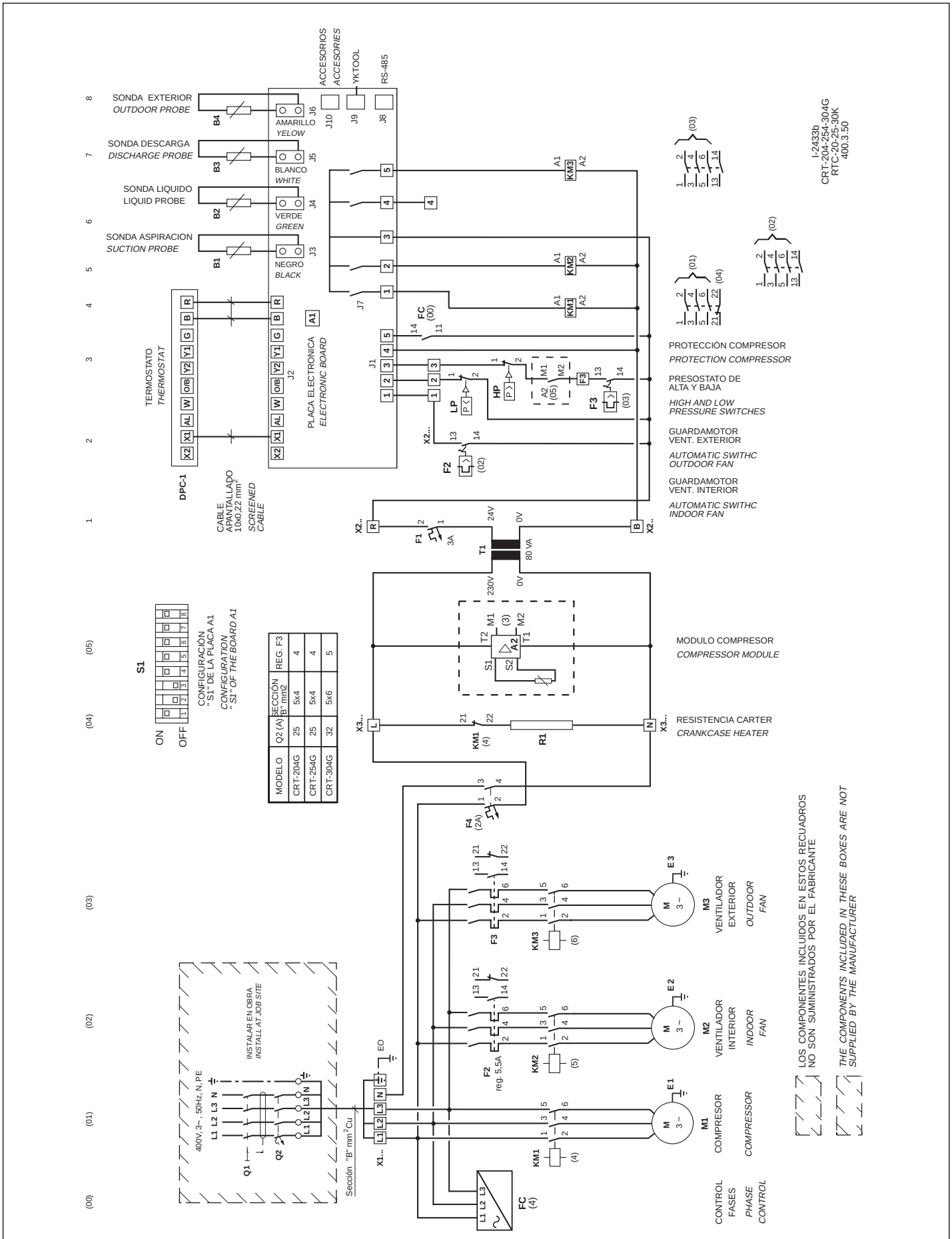
Wiring diagram, RTC-07K, 230.1.50



Wiring diagram, RTC-10-15K, 400.3.50



Wiring diagram, RTC-20-25-30K, 400.3.50



Microswitches configuration:

These stablish the following setups:

Number	State	Meaning
1 / 2	OFF/OFF	Ignore SW, programmed by communications
	ON/OFF	Defrost time 30'
	OFF/ON	Defrost time 60'
	ON/ON	Defrost time 90'
3	ON	Crossed coils
	OFF	Independent coils
4	ON	Compressor time delay at start -up 2'
	OFF	Compressor time delay at start -up 5'
5	ON	Cooling only selection
	OFF	Heat pump selection
6	ON	4-way valve ON in heat pump mode
	OFF	4-way valve ON in cooling only mode
7	ON	Thermostat with signal B (ON in heat pump mode)
	OFF	Thermostat with signal O (ON in cooling only mode)
8	ON	Indoor Fan ON in defrost mode
	OFF	Indoor Fan OFF in defrost mode

Failures

These are indicated by the red LED on the YKIon board. If no failure is present, this LED remains OFF permanently. When a failure occurs, this LED flashes in two sequences. The first indicates the compressor affected: One flash for compressor 1, two flashes for compressor 2, three flashes for compressor 3 and four flashes for accesories, followed by a short pause. The second indicates the cause of the failure.

Failures table (Red LED)

Flashes		Meaning
1 2 or 3	1	Discharge temperature exceeded
	2	High pressure switch
	3	Low pressure switch
	4	Indoor fan thermal switch
	5	Repeated start ups in cool or suction temperature <-25°C
4	1	Failure of gas control 1 or heater 1
	2	Failure of gas control 2 or heater 2
	3	Stage failure of heater 3
	4	Stage failure of heater 4
	5	Failure of economizer or HW coil (impulse, outdoor, return, water probe)
	6	Detection of smoke or high temperature

Incidents

Incidents are indicated by the green LED on the YKIon board. If no incidents is present, this LED flashes at a constant frequency. When an incident occurs, the LED flashes in three sequences. The first indicates the compressor affected: one flash for compressor 1, two flashes for compressor 2, three flashes for compressor 3 and four flashes for others, followed by a short pause. The second and third indicates the cause of the incident.

Table of incidents (Green LED)

Flashes			Type	Incident
1 2 or 3	1	1	Probes	Discharge probe open or short circuited
		2		Liquid probe open or short circuited
		3		Suction probe open or short circuited
	2	1	Temperature	Repeated defrost cycles
		2		Discharge temperature doesn´t recuperate
4	1	1	Probes	Impulsion probe open or short circuited
		2		Return probe open or short circuited
		3		Outdoor probe open or short circuited
		4		Water probe open or short circuited
		5		Error in enthalpy probes
	2	1	Thermostat	Signal Y1 or Y2 without signal G
		2		Signal W without signal B
		3		Signal W without signal G
		4		Signal Y2 or Y2 without Y1
	3	1	Aux. heat	Thermal switch of heater 1
		2		Thermal switch of heater 2
		3		Thermal switch of heater 3
		4		Thermal switch of heater 4
	4	1	Temperature	Water coil temperature not recuperating
		2		Outdoor temperature too low
		3		Water coil in defrost cycle
		4		Impulse temperature above 80°C
	5	1	Others	ID transceiver unknown
		2		At least one accesory not found
		3		Call for air quality
		4		Dirty filters
		5		Presence sensor set to unoccupied

Test push-button

- Also shortens certain timings and resets any failure detected if pressed until the green LED goes ON.
- Also identifies optional accesories and probes connected to the board when pressed an held until the red LED goes ON.
- Operates as a LonWorks pin service button. When pressed it sends the Neuron ID through the LonWorks network.
- If the module is powered with this push-button pressed and held for over 3 seconds, the setup of the node is cancelled (only used by authorized staff).

Thermostat DPC-1

When occurs a failure, and there is communication, the thermostat indicates time and failure (according to the failures table). Also indicates others indicents of the thermostat.

Type	Thermostats numbers		Incident
Thermostat	9	1	Ambient probe open or short circuited
	9	2	Internal probe not calibrated
	9	3	Error in communication
	9	4	Outdoor failure

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Accessories

Duct electric heaters for RTC/RTH-07 to 30

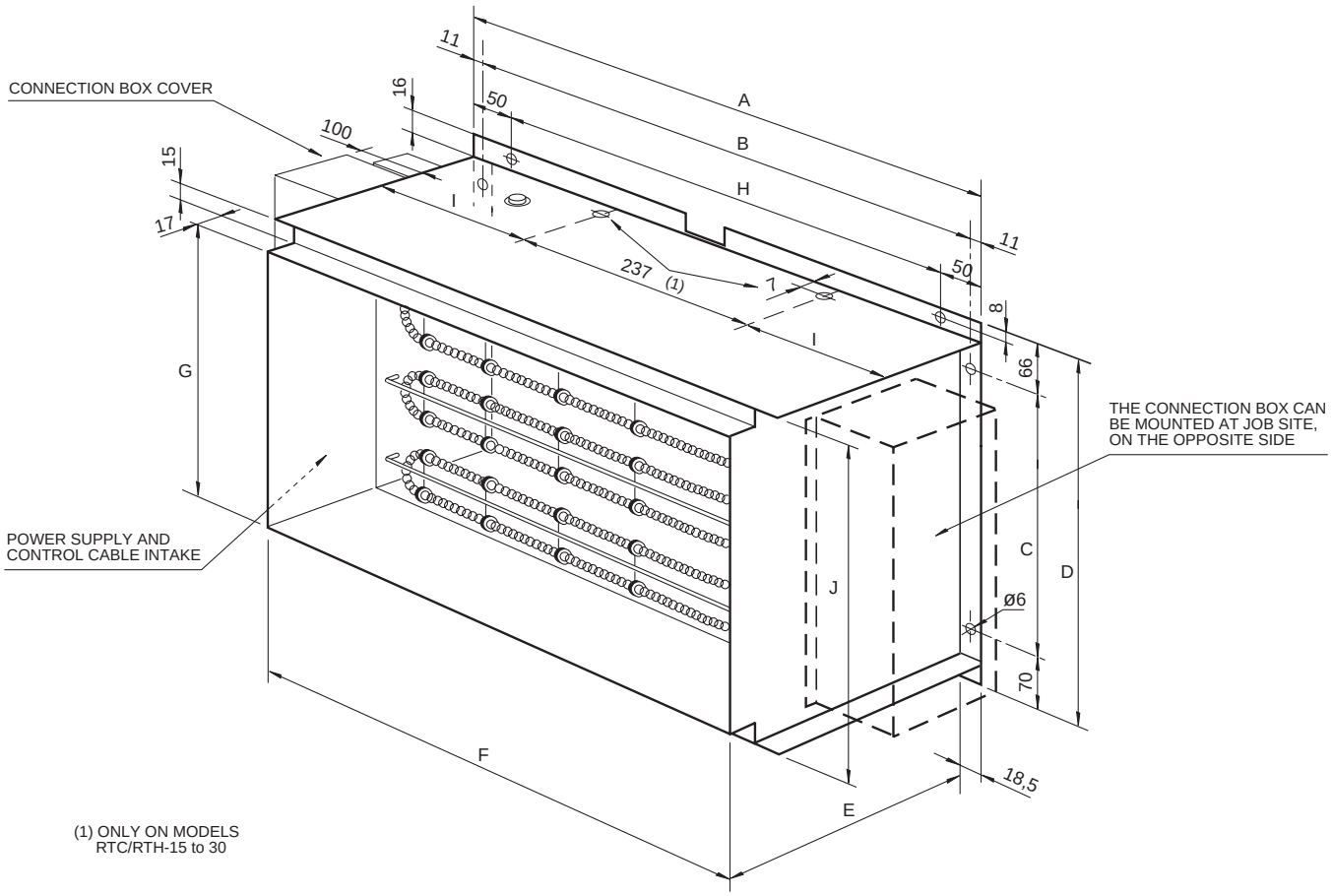
These duct electric heaters are designed to provide backup heat in the RTH units, and complementary heat in the RTC units. On and off cycles are governed by the air conditioning equipment control system. These should be fitted directly to the impulse outlet of the indoor section of the unit.

Technical specifications

These duct electric heaters include the following components:

- Galvanised sheet casing, covers and supports.
- Exposed nickel-chrome wire electric resistance mounted on steatite supports.
- Power supply contactor with a 230 V coil on one-phase heaters, and a 400 V coil on three-phase heaters.
- Two thermal switches located at the top of the heater. The first, with automatic reset, disconnects the heater when a temperature of 77°C is reached. The second, accessible externally and with manual reset, disconnects the heater when a temperature of 138°C is reached.
- Interlock with the indoor fan thermal relay on models RTC/RTH-20, 25 and 30. The control system of the unit does not allow operation of the heater when the indoor fan thermal relay fails.
- Plug-in connector for interconnection between the control panel of the air conditioning unit and the heater.
- PVC gasket for heater-air conditioner joint and self-threading screws for fastening the accessory.

General dimensions mm



(1) ONLY ON MODELS RTC/RTH-15 to 30

Model	A	B	C	D	E	F	G	H	I	J
RTC/RTH-07 and 10K	400	378	285	385	275	362	320	300	-	353
RTC/RTH-15 to 30K	527	505	310	447	350	490	380	427	145	412

General characteristics

Model	Power supply	Power	Consumption	Stages	Automatic switch (1) Q1	Power supply cable section (2)	Front furface	Pressure drop (3)
	V.ph.Hz	kW	A		A	mm^2	m^2	Pa
RTC/RTH-07	230.1.50	5	22	1	25	4	0,12	6
RTC/RTH-07 & 10	400.3.50	5	8	1	10	1,5	0,12	6
RTC/RTH-07 & 10	400.3.50	10	15	1	20	2,5	0,12	6
RTC/RTH-15 to 30	400.3.50	10	15	1	20	2,5	0,19	15
RTC/RTH-15 to 30	400.3.50	15	22	1	25	4	0,19	15

Notes: 1.- K curve (DIN, VDE 0660-104). 2.- Based on copper conductors. 3.- Considered the nominal air flow of the indoor section.

Dimensions with packing and weights

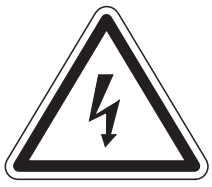
Heater model	Dimensions with packing mm			Weight kg
	Height	Width	Depth	
RTC/RTH-07 and 10	360	513	293	15
RTC/RTH-15 and 30	440	640	370	20

Installation

Install the electric heater in the RTC/RTH unit as follows:

1) In all cases, the **established national regulations** should be followed.
2) Disconnect the power supply to the air conditioning unit.
3) Install the magnetothermal and differential switches for the heater in accordance with the table of General Characteristics and the Wiring Diagrams.
4) Remove the access panels of the RTC/RTH unit control box.
5) Unpack the accessory, opening the top of the box. Make sure the heater assembly has not been damaged during transportation. Check the ceramic insulation and that the heater wires are not in contact with any metal parts.
6) Fit the electric heater in the mouth of the indoor fan panel housing and drill eight 3 diameter holes for fastening. Check to make sure that the reset push button of the F9 thermal switch is accessible and at the top. See Heater Location diagram.
7) Fasten the PVC gasket, supplied with the accessory, to the frame surface of the heater adjacent to the indoor fan panel.
8) Fasten the heater to the panel with the screws supplied.
9) Remove the electrical connections cover of the heater and connect the power supply cables to connecting strip X1. Connect the control cable supplied, between connector J1 of the A3 Auxiliary Resistance board, and connector J10 of the A1 control board of the air conditioning unit.
10) The installer should complete the electric circuit of the heater by fitting an air flow control F14 at the most convenient point of the ducts so as to make sure the heater operates only when there is sufficient air flow.
11) Connect power supply to the RTC/RTH unit and the heater.
12) To configure the accessory, press the test button of control board A1 for over 2 seconds, until the red led on the board goes on. Configuration will be complete when said led goes off.
13) Check operation of the heater by selecting the Emergency Heat mode at the ambient thermostat of the air conditioning unit.
14) Assemble the electrical box covers of the heater and the RTC/RTH unit.

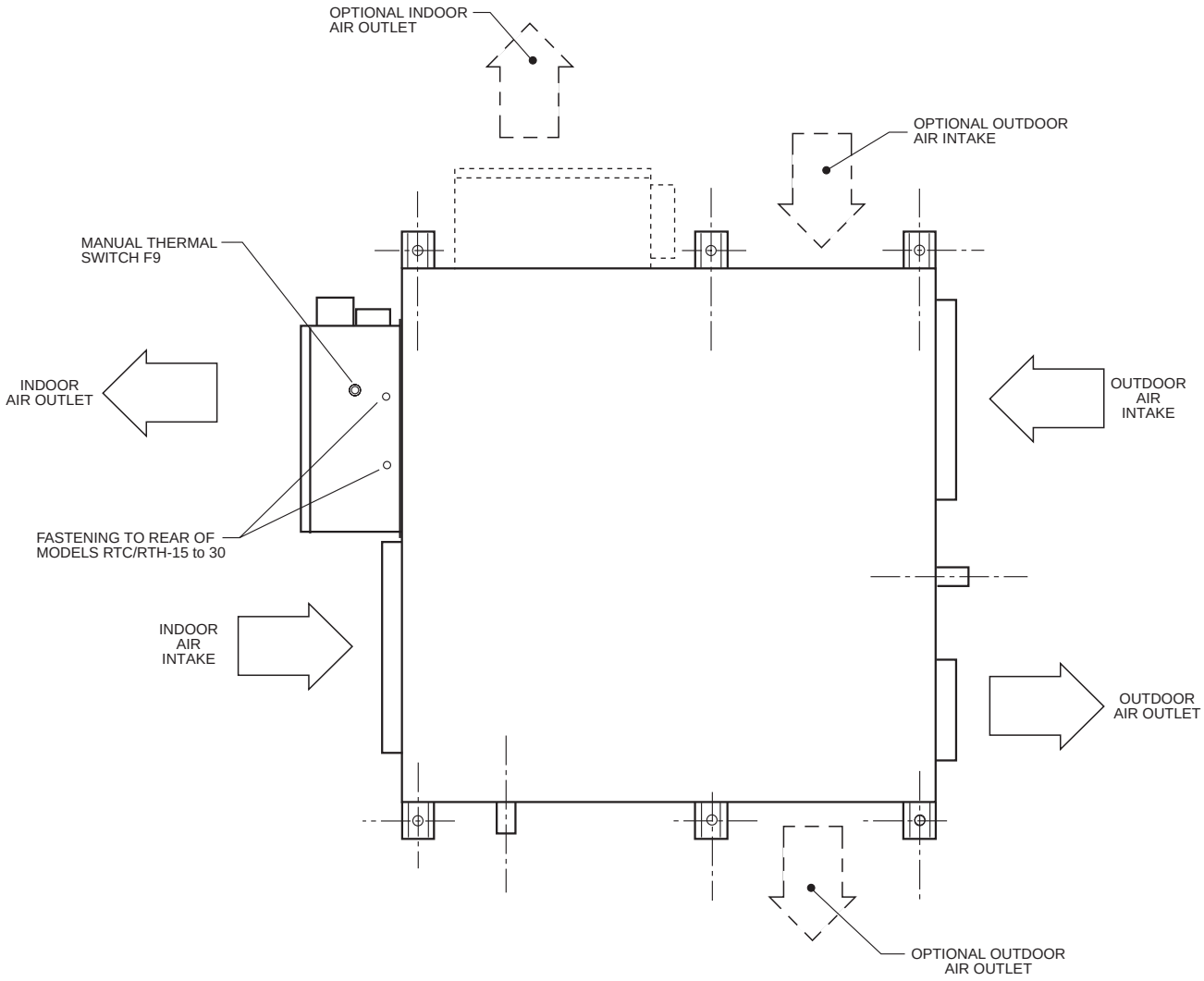
Note: Should an incorrect response of the system take place, see the Operation section of the RTC/RTH Installation Instructions. There you will find the control functions of the A1 electronic board on the heater, as well as its configuration, incidents identification, etc.

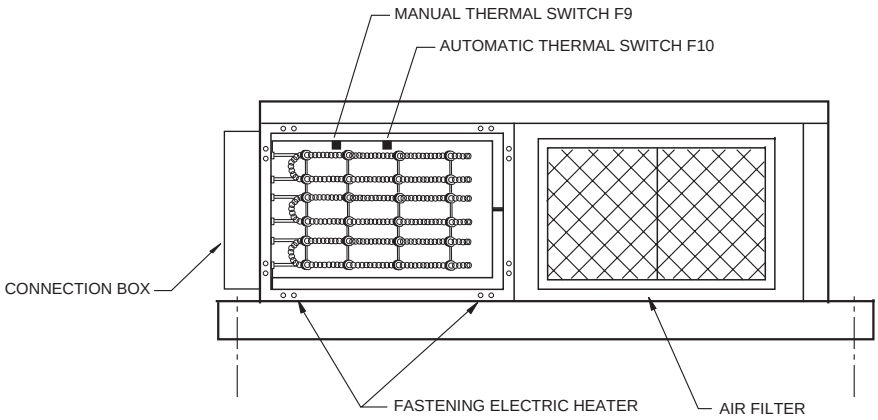


Loose cables can cause overheating of the terminals or incorrect operation of the unit. Fire hazards may also arise. Therefore, make sure all cables are connected tightly.

Heater location

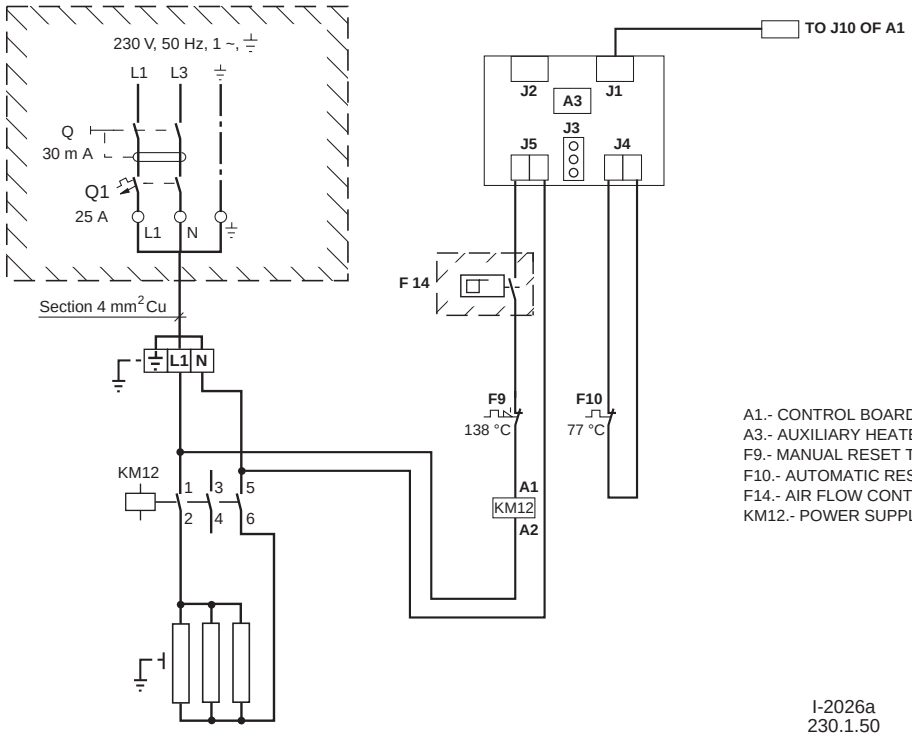
RTC/RTH - 07 to 30





Wiring diagram

Heater 5kW, 230.1.50
RTC/RTH-07 to 30



A1.- CONTROL BOARD
A3.- AUXILIARY HEATER ACCESSORY-1
F9.- MANUAL RESET THERMAL SWITCH, 138 °C
F10.- AUTOMATIC RESET THERMAL SWITCH, 77 °C
F14.- AIR FLOW CONTROL
KM12.- POWER SUPPLY CONTACTOR, 230 VAC COIL

I-2026a
230.1.50

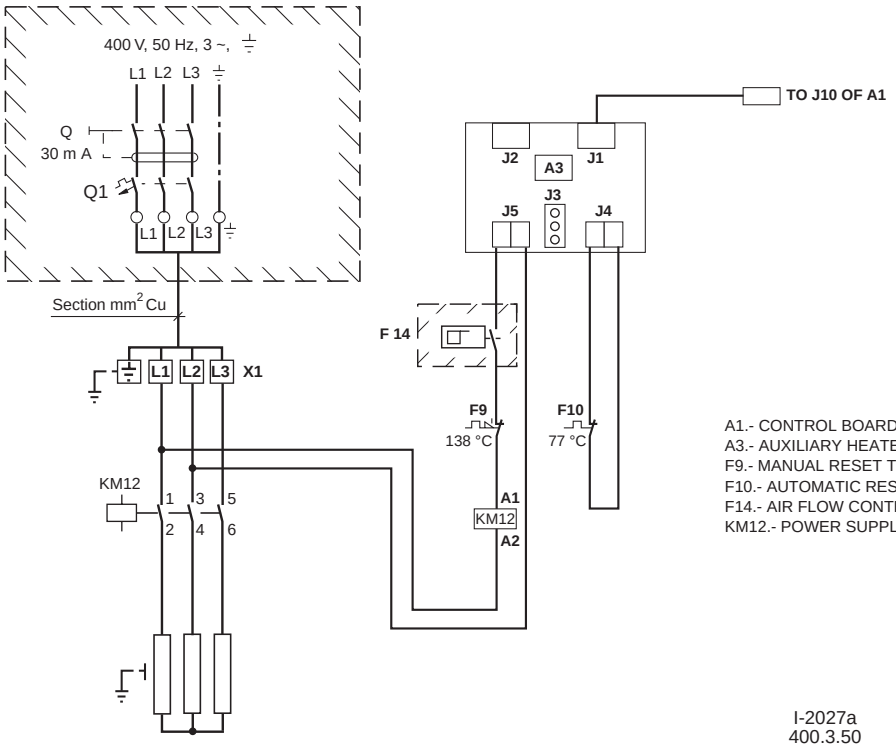
THE COMPONENTS INCLUDED IN THESE BOXES ARE NOT SUPPLIED BY THE MANUFACTURER.

IMPORTANT: THE SIZE OF THE CIRCUIT BREAKER AND THE CROSS-SECTION OF THE SUPPLY AND CONTROL LINES ARE ONLY AS A GUIDE AND SHOULD BE CORRECTED IN ACCORDANCE WITH THE CONDITIONS AT THE JOBSITE, DISTANCE BETWEEN UNITS, AND CURRENT LEGISLATION.

Wiring diagram

Heater 5, 10, 15kW, 400.3.50
RTC/RTH-07 to 30

POWER kW	AUTOMATIC SWITCH Q1	MINIMUM CABLE SECTION mm²
5	10	1,5
10	20	2,5
15	25	4



A1.- CONTROL BOARD
A3.- AUXILIARY HEATER ACCESSORY-1
F9.- MANUAL RESET THERMAL SWITCH 138 °C
F10.- AUTOMATIC RESET THERMAL SWITCH 77 °C
F14.- AIR FLOW CONTROL
KM12.- POWER SUPPLY CONTACTOR 400 VAC COIL

I-2027a
400.3.50

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