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TWM Series Air Handler

Cooling capacity: 18-36 kBtu/h

Contents:

Standard Features:

- Direct-drive, multi-speed motors allow air volume variation for heating / cooling.
  - Multi-speed ECM motor: M152 series
  - Multi-speed PSC motor: M134 series
- Thermoplastic drain pan with bottom primary and secondary drain connections.
- Built-in filter rack.
- Wall-hanging bracket included.
- Front or bottom return available.
- Optional heating elements in 5kW, 7.5kW, and 10kW.
- All-aluminum coil.
- AHRI listed and ETL listed.
- R454B refrigerant sensor is configured to ensure safe operation.
- R454B refrigerant sensor is factory-installed, more rooms are available for installation.

1 Product lineup

Model	TWM4P18A000A TWM4P24A000A TWM4P30B000A TWM4P36B000A	TWM5E19A000A TWM5E25A000A TWM5E31B000A TWM5E37B000A
Power supply	208/230V-1Ph-60Hz	208/230V-1Ph-60Hz
Appearance		

2 Specifications

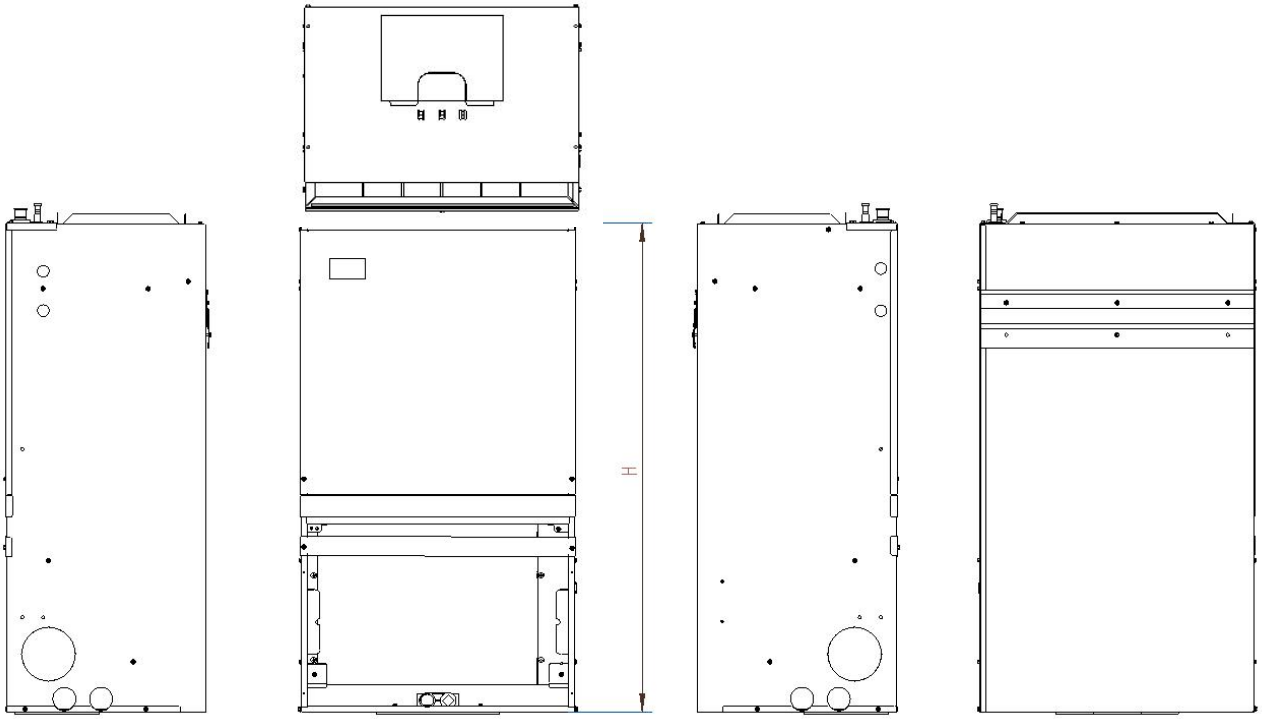
PSC

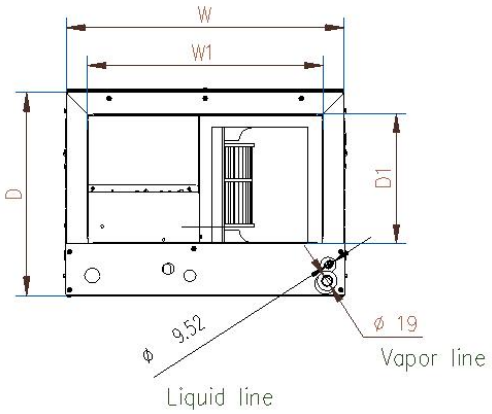
	TWM4P18A000A	TWM4P24A000A	TWM4P30B000A	TWM4P36B000A
NOMINAL RATING				
Cooling (BTU/h)	18,000	24,000	30,000	36,000
External Static Pressure (in.w.c)	0.6	0.6	0.6	0.6
ELECTRICAL DATA				
Voltage / Phase (60Hz)	208/230V-1Ph	208/230V-1Ph	208/230V-1Ph	208/230V-1Ph
Min. / Max. Voltage (V)	208/230V	208/230V	208/230V	208/230V
Min. Circuit Amps (MCA) (A)	1.2	1.7	2.8	2.8
Max. Overcurrent Protection (MOP) (A)	15	15	15	15
FAN MOTOR				
Motor Type	PSC	PSC	PSC	PSC
Capacitor (uF)	6	6	15	10
Horsepower (HP)	1/6	1/5	1/3	1/3
Rated RPM	650	750	1130	1150
Full Load Amps (FLA) (A)	0.9	1.3	2.2	2.2
Refrigerant Detector				
Number of Detector	1	1	1	1
Type	TC/NDIR	TC/NDIR	TC/NDIR	TC/NDIR
Detection Threshold Limit Value (DTLV)	0.1	0.1	0.1	0.1
Measurement Range	0～100%	0～100%	0～100%	0～100%
Operating temp (°F)	-22～158	-22～158	-22～158	-22～158
FAN BLOWER				
Material	Metal	Metal	Metal	Metal
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Diameter (in.)	10	10	10	10
Height (in.)	6	6	9	9
EVAPORATOR COIL				
Type	Tube & Fin	Tube & Fin	Tube & Fin	Tube & Fin
Tube Material	Aluminum	Aluminum	Aluminum	Aluminum
Tube Size (mm)	7	7	7	7
Sound Pressure Level dBA	49	52	53	54
REFRIGERANT CONNECTION SIZE				
Liquid Line Size (O.D.) (in.)	3/8	3/8	3/8	3/8
Suction Line Size (O.D.) (in.)	3/4	3/4	3/4	3/4

ECM

	TWM5E19A000A	TWM5E25A000A	TWM5E31B000A	TWM5E37B000A
NOMINAL RATING				
Cooling (BTU/h)	18,000	24,000	30,000	36,000
External Static Pressure (in.w.c)	0.6	0.6	0.6	0.6
ELECTRICAL DATA				
Voltage / Phase (60Hz)	208/230V-1Ph	208/230V-1Ph	208/230V-1Ph	208/230V-1Ph
Min. / Max. Voltage (V)	208/230V	208/230V	208/230V	208/230V
Min. Circuit Amps (MCA) (A)	2.4	2.4	3.4	3.4
Max. Overcurrent Protection (MOP) (A)	15	15	15	15
FAN MOTOR				
Motor Type	ECM	ECM	ECM	ECM
Capacitor (uF)	/	/	/	/
Horsepower (HP)	1/3	1/3	1/2	1/2
Rated RPM	650	800	1100	1120
Full Load Amps (FLA) (A)	1.9	1.9	2.7	2.7
Refrigerant Detector				
Number of Detector	1	1	1	1
Type	TC/NDIR	TC/NDIR	TC/NDIR	TC/NDIR
Detection Threshold Limit Value (DTLV)	0.1	0.1	0.1	0.1
Measurement Range	0～100%	0～100%	0～100%	0～100%
Operating temp (°F)	-22～158	-22～158	-22～158	-22～158
FAN BLOWER				
Material	Metal	Metal	Metal	Metal
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Diameter (in.)	10	10	10	10
Height (in.)	6	6	9	9
EVAPORATOR COIL				
Type	Tube & Fin	Tube & Fin	Tube & Fin	Tube & Fin
Tube Material	Aluminum	Aluminum	Aluminum	Aluminum
Tube Size (mm)	7	7	7	7
Sound Pressure Level dBA	49	52	53	54
REFRIGERANT CONNECTION SIZE				
Liquid Line Size (O.D.) (in.)	3/8	3/8	3/8	3/8
Suction Line Size (O.D.) (in.)	3/4	3/4	3/4	3/4

3 Dimensional Drawing





Model Size	Dimensions- (in.) [mm]				
	Height H	Width W	Width W1	Depth D	Depth D1
18K/24K	36-1/2 [928]	20-1/2 [521]	17-2/5 [442]	15 [381]	9-1/2 [242]
30K/36K	39-1/2 [1004]	22 [559]	18-4/5 [478]	19 [483]	9-1/2 [242]

4 Electrical Characteristics

Electric Heater Kit Electrical Data

PSC

Heater Kit Model Used	Air Handler Model	Electric Heat(kW)	Min. Circuit Ampacity		Max. Fuse or Breaker (HACR)Ampacity	
			240V	208V	240V	208V
TWM4P18A000A	EHK205B	5	27.0	23.7	30.0	30.0
	EHK208B	7.5	40.2	35.0	50.0	50.0
	EHK210B	10	53.3	46.3	60.0	60.0
TWM4P24A000A	EHK205B	5	27.7	24.2	30.0	30.0
	EHK208B	7.5	40.7	35.5	50.0	50.0
	EHK210B	10	53.8	46.8	60.0	60.0
TWM4P30B000A	EHK205B	5	28.8	25.4	30.0	30.0
	EHK208B	7.5	41.9	36.7	50.0	50.0
	EHK210B	10	54.9	47.9	60.0	60.0
TWM4P36B000A	EHK205B	5	28.6	25.1	30.0	30.0
	EHK208B	7.5	41.6	36.4	50.0	50.0
	EHK210B	10	54.6	47.7	60.0	60.0

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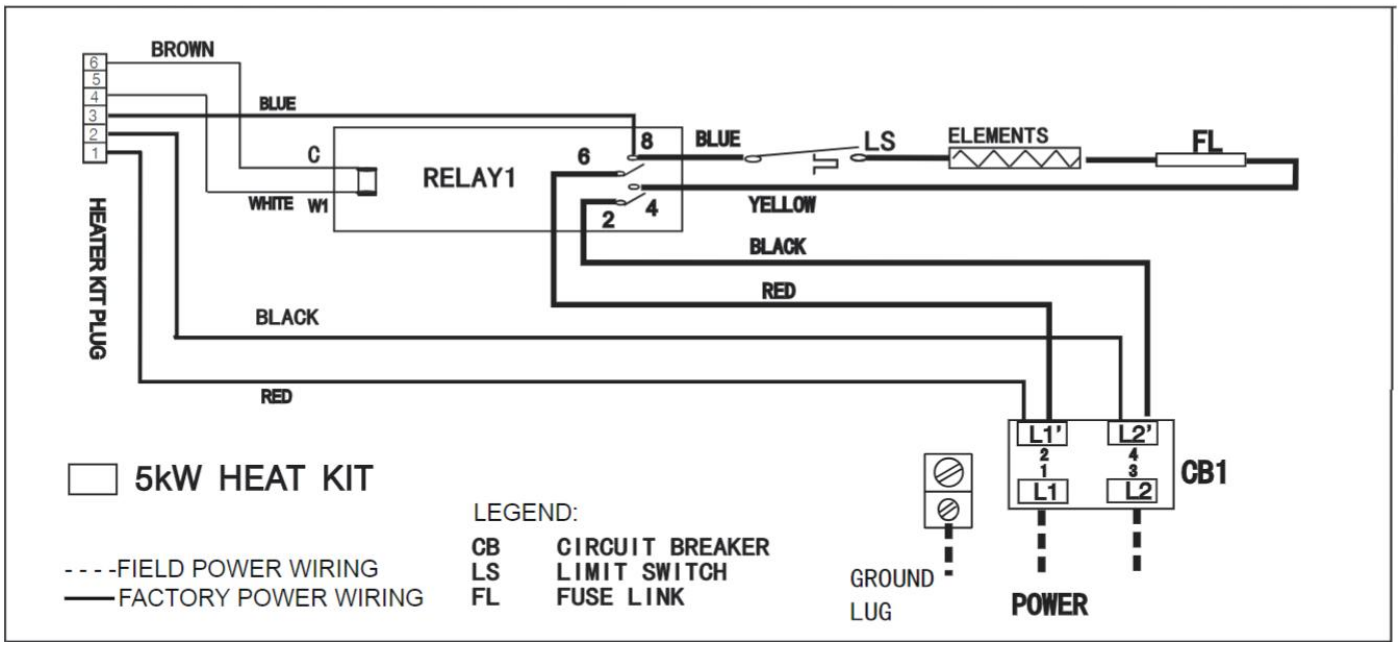
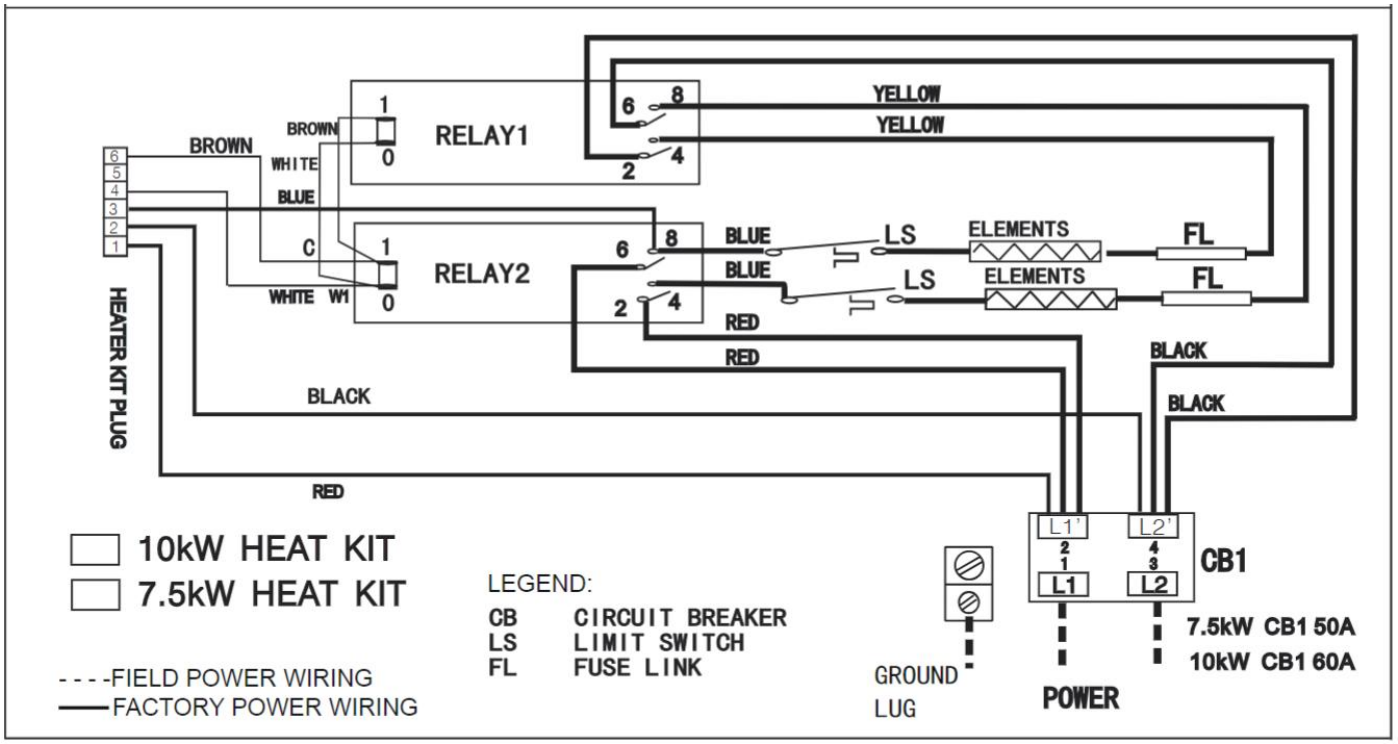
Heater Kit Model Used	Air Handler Model	Electric Heat(kW)	Min. Circuit Ampacity		Max. Fuse or Breaker (HACR)Ampacity	
			240V	208V	240V	208V
TWM5E19A000A	EHK205B	5	28.4	24.9	30.0	30.0
	EHK208B	7.5	41.4	36.2	50.0	50.0
	EHK210B	10	54.5	47.5	60.0	60.0
TWM5E25A000A	EHK205B	5	28.4	24.9	30.0	30.0
	EHK208B	7.5	41.4	36.2	50.0	50.0
	EHK210B	10	54.5	47.5	60.0	60.0
TWM5E31B000A	EHK205B	5	29.4	25.9	30.0	30.0
	EHK208B	7.5	42.4	37.2	50.0	50.0
	EHK210B	10	55.5	48.5	60.0	60.0
TWM5E37B000A	EHK205B	5	29.4	25.9	30.0	30.0
	EHK208B	7.5	42.4	37.2	50.0	50.0
	EHK210B	10	55.5	48.5	60.0	60.0

Electric Heater Power Wiring Diagrams





5 Airflow Data

PSC MODEL	BLOWER SPEEDS	EXTERNAL STATIC PRESSURE (in.w.c.)								
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
18 (1-1/2)	Low	604	562	527	485	441	387	-	-	-
	Med	697	655	619	577	533	479	426	380	
	High (default setting)	802	761	721	682	637	592	541	481	408
24 (2)	Low	665	629	589	547	508	480	-	-	-
	Med	831	786	741	696	655	609	559	497	-
	High (default setting)	932	881	833	786	742	689	636	574	515
30 (2-1/2)	Low	988	948	900	862	816	772	719	642	613
	Med (default setting)	1197	1152	1097	1046	998	940	886	821	737
	High	1338	1284	1220	1159	1096	1029	960	879	792
36 (3)	Low	1118	1072	1018	971	920	876	819	759	693
	Med	1262	1213	1160	1098	1049	998	937	871	804
	High (default setting)	1360	1311	1263	1229	1166	1074	1005	934	867

--- NOTES: Shaded boxes represent airflow outside the required 300-450 CFM/ton.

1. Airflow data includes electric heat and filter.

2. Airflow data is with no return grill. When using a return grill on 18 & 24 sizes, decrease numbers above by approx. 10 CFM. For 30 & 36 sizes, decrease numbers above by approx. 50 CFM.

ECM Model	BLOW ER SPEEDS	EXTERNAL STATIC PRESSURE (in.w.c.)								
		0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8
18 (1-1/2)	Tap (1)	584	541	487	441	416	357	359	299	253
	Tap (2)	662	615	582	542	514	467	427	385	351
	Tap (3) (default setting)	710	683	645	619	579	535	490	458	416
	Tap (4)	803	769	742	710	675	642	609	572	534
	Tap (5)	899	871	836	810	789	758	719	689	646
24 (2)	Tap (1)	584	541	487	441	416	357	359	299	253
	Tap (2)	662	615	582	542	514	467	427	385	351
	Tap (3)	710	683	645	619	579	535	490	458	416
	Tap (4)	803	769	742	710	675	642	609	572	534
	Tap (5) (default setting)	899	871	836	810	789	758	719	689	646
30 (2-1/2)	Tap (1)	1063	1012	936	898	853	823	780	740	701
	Tap (2)	1133	1080	1026	991	958	904	858	813	769
	Tap (3) (default setting)	1220	1194	1111	1100	1060	1007	952	910	855
	Tap (4)	1234	1200	1146	1229	1088	1046	1004	951	917
	Tap (5)	1341	1310	1247	1225	1192	1151	1101	1077	1033
36 (3)	Tap (1)	1063	1012	936	898	853	823	780	740	701
	Tap (2)	1133	1080	1026	991	958	904	858	813	769
	Tap (3)	1220	1194	1111	1100	1060	1007	952	910	855
	Tap (4) (default setting)	1234	1200	1146	1229	1088	1046	1004	951	917
	Tap (5)	1341	1310	1247	1225	1192	1151	1101	1077	1033

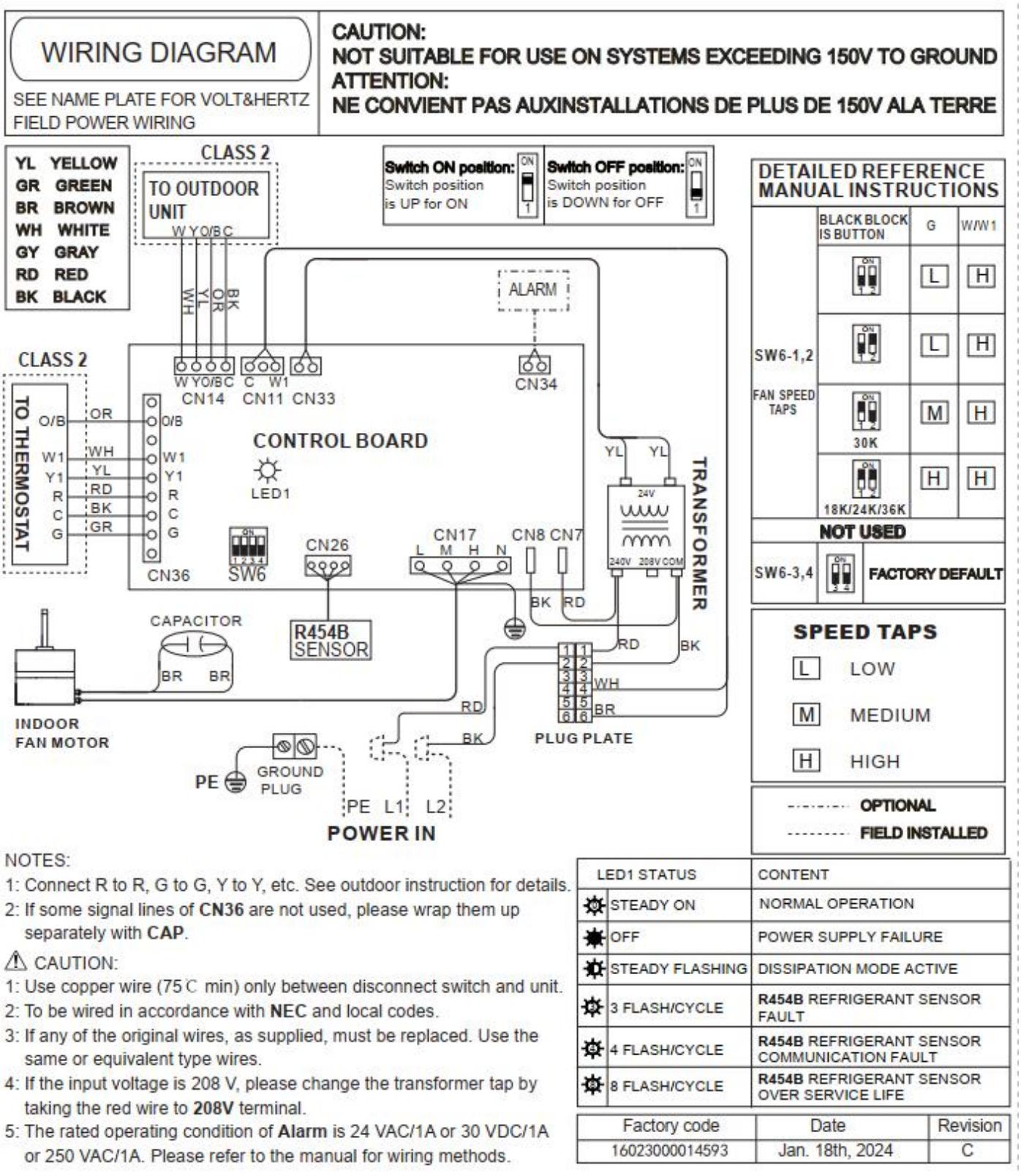
--- NOTES: Shaded boxes represent airflow outside the required 300-450 CFM/ton.

1. Airflow based on dry coil at 230V with no electric heat and factory-approved filter. FMA5X airflow at 208V is approximately the same as 230V because the multi-tap ECM motor is a constant torque with no drop off regardless of motor operating speed.

2. Airflow is equivalent for front or bottom return configurations.

6 Wiring Diagram

PSC



NOTES:

1: Connect R to R, G to G, Y to Y, etc. See outdoor instruction for details.

2: If some signal lines of **CN36** are not used, please wrap them up separately with **CAP**.

⚠ CAUTION:

1: Use copper wire (75℃ min) only between disconnect switch and unit.

2: To be wired in accordance with **NEC** and local codes.

3: If any of the original wires, as supplied, must be replaced. Use the same or equivalent type wires.

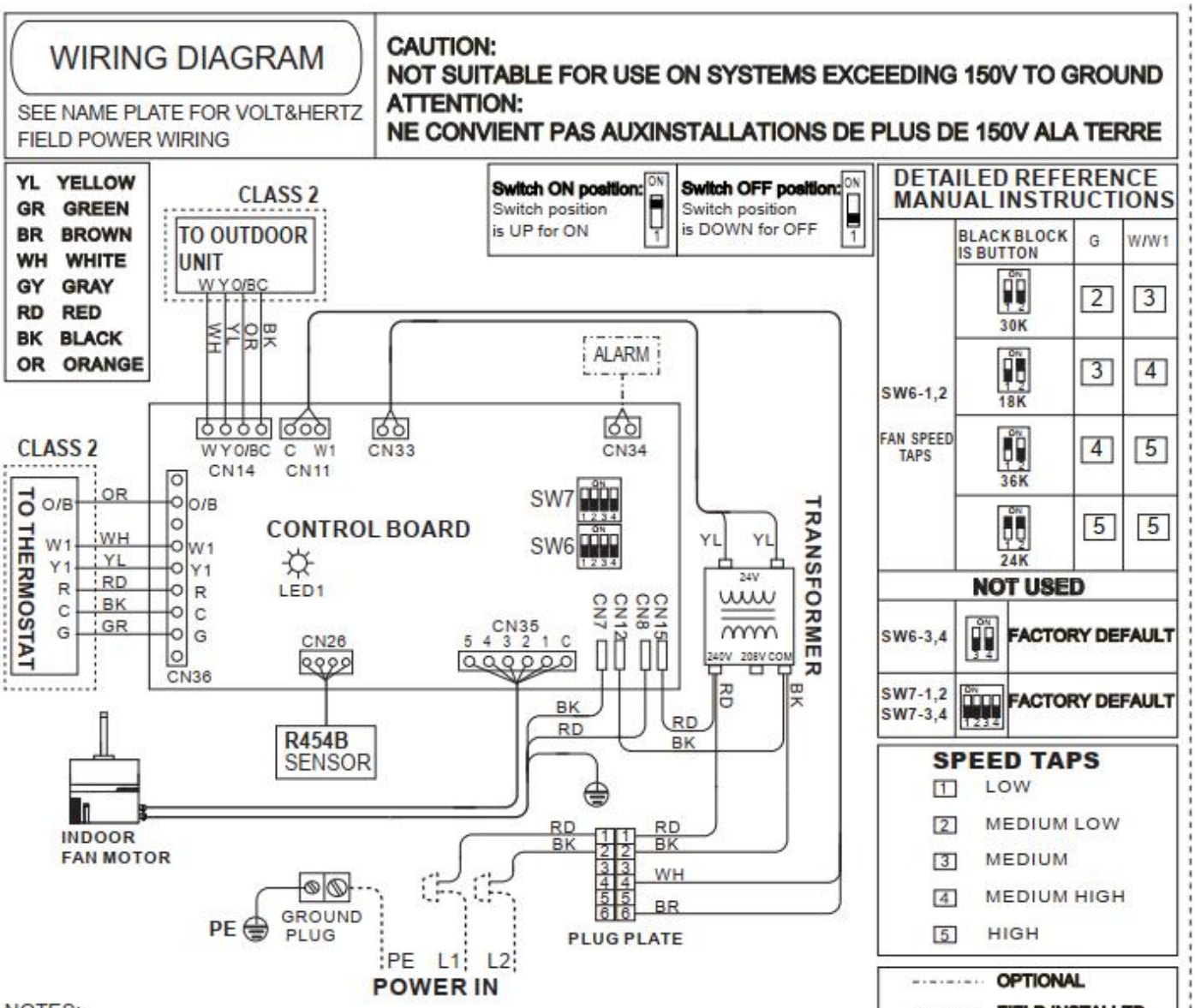
4: If the input voltage is 208 V, please change the transformer tap by taking the red wire to **208V** terminal.

5: The rated operating condition of **Alarm** is 24 VAC/1A or 30 VDC/1A or 250 VAC/1A. Please refer to the manual for wiring methods.

LED1 STATUS	CONTENT
STEADY ON	NORMAL OPERATION
OFF	POWER SUPPLY FAILURE
STEADY FLASHING	DISSIPATION MODE ACTIVE
3 FLASH/CYCLE	**R454B** REFRIGERANT SENSOR FAULT
4 FLASH/CYCLE	**R454B** REFRIGERANT SENSOR COMMUNICATION FAULT
8 FLASH/CYCLE	**R454B** REFRIGERANT SENSOR OVER SERVICE LIFE

Factory code	Date	Revision
16023000014593	Jan. 18th, 2024	C

ECM



NOTES:

1: Connect R to R, G to G, Y to Y, etc. See outdoor instruction for details.
2: If some signal lines of **CN36** are not used, please wrap them up separately with **CAP**.

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LED1 STATUS	CONTENT
STEADY ON	NORMAL OPERATION
OFF	POWER SUPPLY FAILURE
STEADY FLASHING	DISSIPATION MODE ACTIVE
3 FLASH/CYCLE	**R454B** REFRIGERANT SENSOR FAULT
4 FLASH/CYCLE	**R454B** REFRIGERANT SENSOR COMMUNICATION FAULT
8 FLASH/CYCLE	**R454B** REFRIGERANT SENSOR OVER SERVICE LIFE

Factory code	Date	Revision
16023000014592	Jan. 18th, 2024	C