客戶承認書

SPECIFICATION FOR APPROVAL

CUSTOMER: 達瑞美

DESCRIPTION: DC FAN

CUSTOMER P/N: REV:

DELTA MODEL: FFB0824EHE7BT REV: 00

SAMPLE ISSUE DATE: 07/28/2017

QUANTITY:

PLEASE SIGN BACK ONE COPY OF THIS SPECIFICATION AFTER COMPLETION OF APPROVAL

APPROVED BY:

DATE:

DELTA ELECTRONICS COMPONENTS (WUJIANG) LTD.
FAN/MOTOR PLANT
No.1688 Jiangxing East Road,WuJiang Economy Development Zone
Wujiang City JiangSu Province, P.R.C.

TEL:86-512-63406008
FAX:86-512-63015608

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STATEMENT OF DEVIATION

****

[V] NONE

[ ] DESCRIPTION :

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SPECIFICATION FOR APPROVAL

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Customer:	達瑞美		
Description:	DC FAN		
Customer P/N:		REV:	
Delta Model NO.:	FFB0824EHE7BT	Delta Safety Model NO:	FFB0824EHE
Sample Rev:	00	Issue NO:	
Sample Issue Date:	JUL-28-2017	Quantity:	

1. SCOPE:

THIS SPECIFICATION DEFINES THE ELECTRICAL AND MECHANICAL CHARACTERISTICS OF THE DC BRUSHLESS AXIAL FLOW FAN. THE FAN MOTOR IS WITH TWO PHASES AND FOUR POLES.

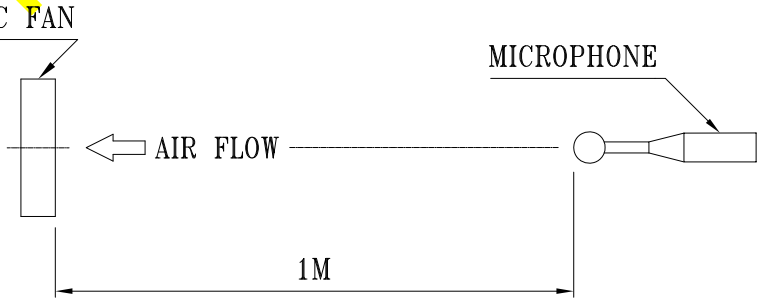
2. CHARACTERS:

ITEM	DESCRIPTION
RATED VOLTAGE	24 VDC
OPERATION VOLTAGE	14.0 - 26.4 VDC
INPUT CURRENT	0.50 (MAX. 0.75) A SAFETY CURRENT ON LABEL : 0.75A
INPUT POWER	12.00 (MAX. 18.00) W
SPEED	5700 R.P.M. (REF.)
MAX. AIR FLOW (AT ZERO STATIC PRESSURE)	2.270 (MIN. 2.040) M^3/MIN. 80.16 (MIN. 72.04) CFM
MAX. AIR PRESSURE (AT ZERO AIRFLOW)	20.63 (MIN. 16.71) mmH_2O 0.812 (MIN. 0.658) $inchH_2O$
ACOUSTICAL NOISE (AVG.)	52.5 (MAX. 56.5) dB-A
INSULATION TYPE	UL: CLASS A

(continued)

INSULATION STRENGTH	10 MEG OHM MIN. AT 500 VDC (BETWEEN FRAME AND (+) TERMINAL)
DIELECTRIC STRENGTH	5 mA MAX. AT 500 VAC 50/60 Hz ONE MINUTE, (BETWEEN FRAME AND (+) TERMINAL)
EXTERNAL COVER	OPEN TYPE
LIFE EXPECTANCE (AT LABEL VOLTAGE)	70,000 HOURS CONTINUOUS OPERATION AT 40 °C WITH 15 ~ 65 %RH.
ROTATION	CLOCKWISE VIEW FROM NAME PLATE SIDE
OVER CURRENT SHUT DOWN	THE CURRENT WILL SHUT DOWN WHEN LOCKING ROTOR.
LEAD WIRE	UL 1007 -F- AWG #24 BLACK WIRE NEGATIVE(-) RED WIRE POSITIVE(+) BLUE WIRE FREQUENCY(-F00)

NOTES:
1. ALL READINGS ARE MEASURED AFTER STABLY WARMING UP THROUGH 10 MINUTES.
2. STANDARD AIR PROPERTY IS AIR AT (Td) 25°C TEMPERATURE, (RH) 65% RELATIVE HUMIDITY, AND (Pb) 760 mmHg BAROMETRIC PRESSURE.
3. THE VALUES WRITTEN IN PARENS , ( ), ARE LIMITED SPEC.
4. ACOUSTICAL NOISE MEASURING CONDITION:



NOISE IS MEASURED AT RATED VOLTAGE IN FREE AIR IN ANECHOIC CHAMBER WITH B & K SOUND LEVEL METER WITH MICROPHONE AT A DISTANCE OF ONE METER FROM THE FAN INTAKE.

3. MECHANICAL:

3-1. DIMENSIONS ——— SEE DIMENSIONS DRAWING

3-2. FRAME ——— PLASTIC UL: 94V-0

3-3. IMPELLER ——— PLASTIC UL: 94V-0

3-4. BEARING SYSTEM ——— TWO BALL BEARINGS

3-5. WEIGHT ——— 170 GRAMS

4. ENVIRONMENTAL:

4-1. OPERATING TEMPERATURE ——— -10 TO +70 DEGREE C

4-2. STORAGE TEMPERATURE ——— -40 TO +75 DEGREE C

4-3. OPERATING HUMIDITY ——— 5 TO 90 % RH

4-4. STORAGE HUMIDITY ——— 5 TO 95 % RH

5. PROTECTION:

5-1. LOCKED ROTOR PROTECTION

IMPEDANCE OF MOTOR WINDING PROTECTS MOTOR FROM FIRE IN 96 HOURS OF LOCKED ROTOR CONDITION AT THE RATED VOLTAGE.

5-2. POLARITY PROTECTION

BE CAPABLE OF WITHSTANDING IF REVERSE CONNECTION FOR POSITIVE AND NEGATIVE LEADS.

6. RE OZONE DEPLETING SUBSTANCES:

6-1. NO CONTAINING PBBs, PBBOs, CFCs, PBBEs, PBDPEs AND HCFCs.

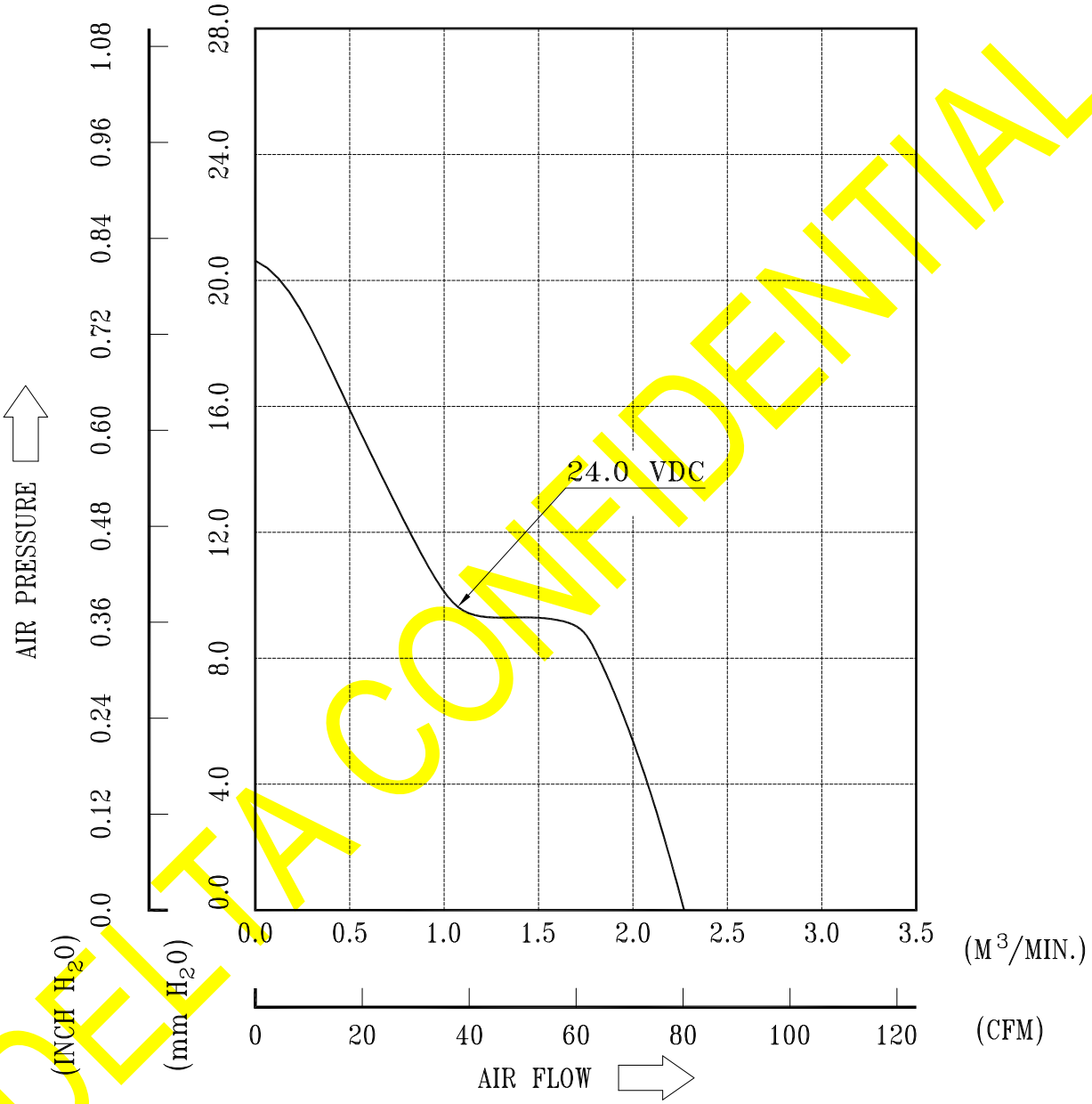
7. PRODUCTION LOCATION

7-1. PRODUCTS WILL BE PRODUCED IN CHINA OR THAILAND .

PART NO:

DELTA MODEL: FFB0824EHE7BT

8. P & Q CURVE:



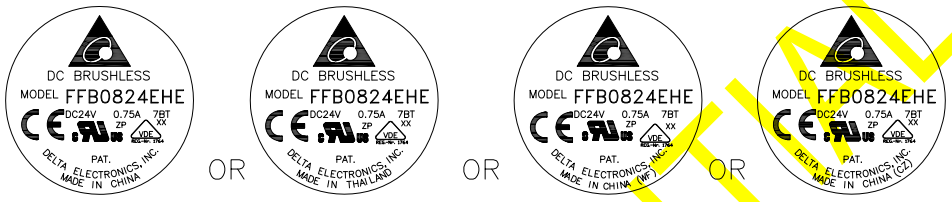
* TEST CONDITION: INPUT VOLTAGE ——— OPERATION VOLTAGE
TEMPERATURE ——— ROOM TEMPERATURE
HUMIDITY ——— 65%RH

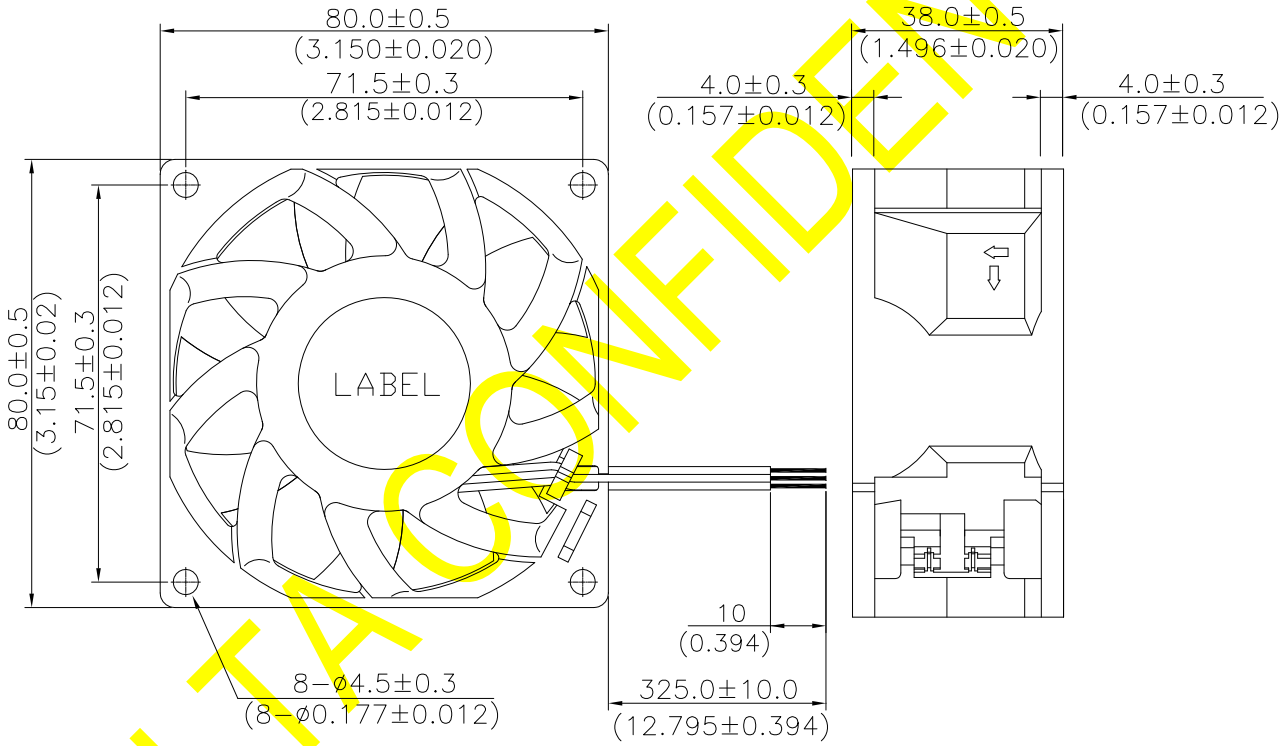
PART NO:

DELTA MODEL: FFB0824EHE7BT

9. DIMENSION DRAWING:

LABEL:





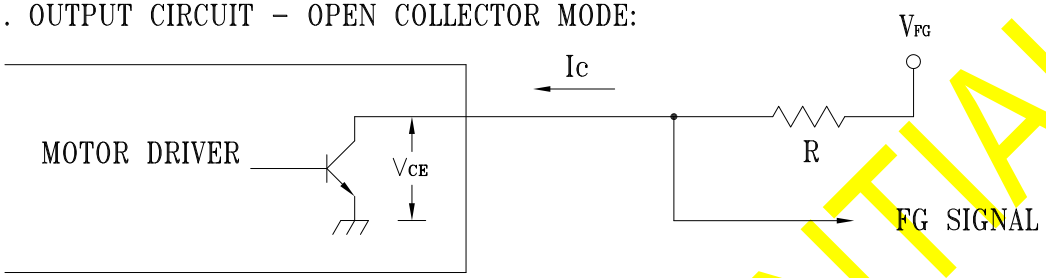
NOTES:

1. LEAD WIRE UL1007 AWG#24
   RED WIRE----(+)
   BLACK WIRE----(-)
   BLUE WIRE----(-F00)
2. PWB MUST BE COATING ON BOTH SIDES AND THE PINS OF THE WINDING FOR 1B31.
3. THIS PRODUCT IS RoHS COMPLIANT

UNIT:mm(INCH)

10. FREQUENCY GENERATOR (FG) SIGNAL:

1. OUTPUT CIRCUIT – OPEN COLLECTOR MODE:



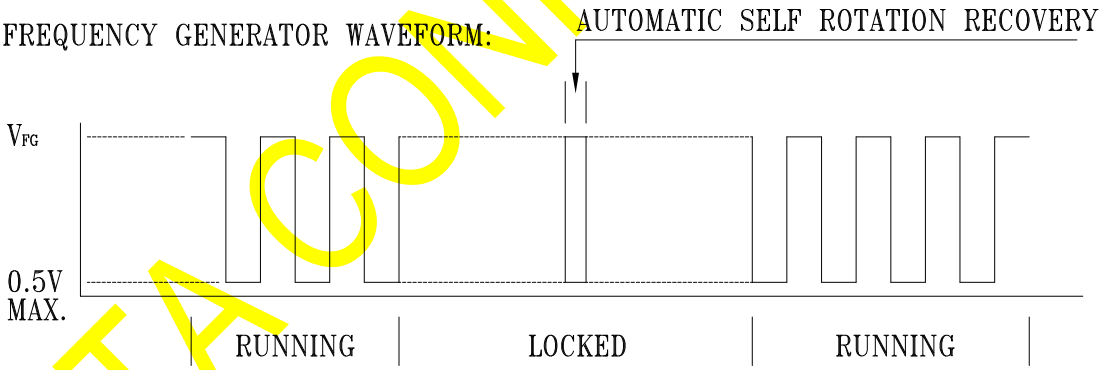
CAUTION:
THE LEAD WIRE OF FG SIGNAL CAN NOT TOUCH
THE LEAD WIRE OF POSITIVE OR NEGATIVE.

2. SPECIFICATION:

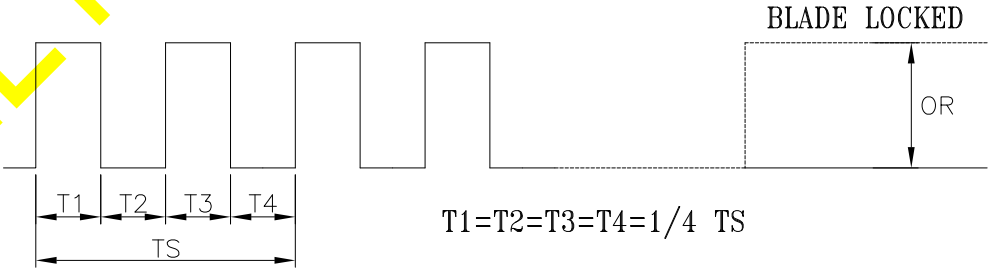
V_{CE} (sat)=0.5V MAX. V_{FG} =26.4VDC MAX.

I_C =5mA MAX. $R \geq V_{FG}/I_C$

3. FREQUENCY GENERATOR WAVEFORM:



FAN RUNNING FOR 4 POLES



T1=T2=T3=T4=1/4 TS

N=R.P.M
TS=60/N(SEC)
*VOLTAGE LEVEL AFTER BLADE LOCKED
*4 POLES

Application Notice

1. Delta will not guarantee the performance of the products if the application condition falls outside the parameters set forth in the specification.
2. A written request should be submitted to Delta prior to approval if deviation from this specification is required.
3. Please exercise caution when handling fans. Damage may be caused when pressure is applied to the impeller, if the fans are handled by the lead wires, or if the fan was hard-dropped to the production floor.
4. Except as pertains to some special designs, there is no guarantee that the products will be free from any such safety problems or failures as caused by the introduction of powder, droplets of water or encroachment of insect into the hub.
5. The above-mentioned conditions are representative of some unique examples and viewed as the first point of reference prior to all other information.
6. It is very important to establish the correct polarity before connecting the fan to the power source. Positive (+) and Negative (-). Damage may be caused to the fans if connection is with reverse polarity, if there is no foolproof method to protect against such error specifically mentioned in this spec.
7. Delta fans without special protection are not suitable where any corrosive fluids are introduced to their environment.
8. Please ensure all fans are stored according to the storage temperature limits specified. Do not store fans in a high humidity environment. We highly recommend performance testing is conducted before shipping, if the fans have been stored over 6 months.
9. Not all fans are provided with the Lock Rotor Protection feature. If you impair the rotation of the impeller for the fans that do not have this function, the performance of those fans will lead to failure.
10. Please be cautious when mounting the fan. Incorrect mounting of fans may cause excess resonance, vibration and subsequent noise.
11. It is important to consider safety when testing the fans. A suitable fan guard should be fitted to the fan to guard against any potential for personal injury.
12. Except where specifically stated, all tests are carried out at room (ambient) temperature and relative humidity conditions of 25°C, 65% RH. The test value is only for fan performance itself.
13. Be certain to connect an " 4.7μF or greater" capacitor to the fan externally when the application calls for using multiple fans in parallel, to avoid any unstable power.

File E132003
Project 00NK09772

Issued: June 2, 2000
Revised: **August 27, 2005**

REPORT

On

COMPONENT - FANS, ELECTRIC

Delta Electronics, Inc.
Taoyuan Hsien, Taiwan

DESCRIPTION

PRODUCT COVERED:

USR Component – DC Fans, Models see “ELECTRICAL RATINGS” for details.

USR, CNR - DC Component Fans, Models FFB0824SH(Y) and FFB0848SH(Y) series, where (Y) may be xxxxx, where x may be A through Z, 0 through 9, “-” or blank.

MODEL REFERENCES:

New Model Numbers replace original model numbers as below tables for details. All references are identical to the original models.

New Models Nos.	Original Model Nos.
EFC1248EE(Y)	EFC1248EE
FFB0812HHE(Y)	FFB0812HHE
FFB0812VHE(Y)	FFB0812VHE
FFB0812SHE(Y)	FFB0812SHE
FFB0812EHE(Y)	FFB0812EHE
FFB0812GHE(Y)	**FFB0812GHE, FFB0812GHE-F00, FFB0812GHE-R00**
FFB0812UHE(Y)	**FFB0812UHE, FFB0812UHE-F00, FFB0812UHE-R00**
FFB0824HHE(Y)	FFB0824HHE
FFB0824VHE(Y)	FFB0824VHE
FFB0824SHE(Y)	FFB0824SHE
FFB0824EHE(Y)	FFB0824EHE
FFB0848SHE(Y)	FFB0848SHE
FFB0848VHE(Y)	FFB0848VHE
FFB0848HHE(Y)	FFB0848HHE

Note: Above (Y) may be xxxxx where x may be A through Z; 0 through 9, “-“ or blank.

ELECTRICAL RATINGS:

Model Nos.	V dc	mA
EFC1248EE(Y)	48	400
FFB0812HHE(Y)	12	300
FFB0812VHE(Y)	12	570
FFB0812SHE(Y)	12	870
FFB0812EHE(Y)	12	1350
*__FFB0812GHE(Y)__	12	1380
*		
*__FFB0812UHE(Y)__	12	1800
FFB0824HHE(Y)	24	230
FFB0824VHE(Y)	24	360
FFB0824SHE(Y)	24	510
FFB0824EHE(Y)	24	750
FFB0848SHE(Y)	48	240
FFB0848VHE(Y)	48	170
FFB0848HHE(Y)	48	120
FFB0848EHE(Y)	48	300
FFB0824EHE-SV09(Y)	18	570
FFB0824SH(Y)	24	280
FFB0848SH(Y)	48	170

Note: Above (Y) may be xxxxx where x may be A through Z; 0 through 9, “-“ or blank.

MODEL DIFFERENCES:

All models are similar to each other except for the electrical ratings.

Constructional data for electric motor-operated appliances / electric heating appliances / electric motor operated tools

Applicant: ***Montec-Elcon GmbH & Co. KG***, Am Alten Galgen 10, 56410 Montabaur, Germany

1.1 Manufacturer: Delta Electronics Inc.
9th Floor Asia Enterprise Center, 144 Min Chuan E. Road
Taipei, Taiwan R.O.C.

1.2 Place of manufacture: 1. Delta Electronics Components (Dongguan) Co., Ltd.
2. Delta Electronics Components (Thailand) Co., Ltd.

1.3 Product category: Einbaulüfter

1.4 Type: a. FFB0812HHE/VHE/SHE/EHE
b. FFB0824HHE/VHE/SHE/EHE
c. FFB0848HHE/VHE/SHE

2.1 Nominal Voltage: a. 12VDC b. 24VDC c. 48VDC

2.2 Nominal input: max. a. 300/570/870/1350mA
b. 230/360/510/750mA
c. 120/170/240mA

2.3 Protection against electric shock: Class III (extra-low voltage) - Schutzkleinspannung

2.4 Degree of protection: abgedeckte Ausführung

2.5 Supply connection: Litzenanschluß

2.5.1 Kind of connection:

2.6 Materials: 2.6.1 Enclosure: Polybutylene Terephthalate UL 94 V-0
2.6.2 Water container:

2.7 Refrigerating equipment: permissible operating overpressure, pressure side _____bar

2.8 Type of refrigerant:

2.9 File reference - compressor:

2.10 Quantity of coolant: kg

3.1 Further technical information (short-time, intermittent duty, operating time, nominal contents, operating overpressure):

4 Data about the motor

4.1 Manufacturer:

4.2 Number of revolutions:

4.3 Type reference:

4.4 Kind of motor:

4.5 Nominal voltage:

4.6 Winding:	Resistance Ω	Wire thickness	Number of turns:	Insulation class (insul. mat.)
1				
2	s. beiliegende Datenblätter			E
3				

4.7 Information on ambient temperatures (if higher than 25°C): -10°C / +70°C

4.8 Temperature class:

5. Components installed in the appliance (switch, temperature regulator, heater, cables, capacitor, sockets etc.)

siehe beigefügte Liste

Offenbach, 7.4.00

VDE Testing and Certification Institute
Department ~~FB~~ F13

Place: Montabaur Date: 23.02.2000

Montec-Elcon GmbH & Co KG Postfach 1329 D-56403 Montabaur

Montec-Elcon GmbH & Co. KG