



FHSAC1-UNV-70S



Programmable Normal and Emergency LED Driver

- Input Voltage: 120-277VAC, 50/60Hz
- Rated Output Current: 350-2400mA
- Class 2 LED Driver
- Output Voltage Range of 11-55VDC
- Minimum Dimming Output Current 24mA
- Output Power: 70W for LED load,
- Emergency Output Power: 3W-7W (Factory default 6W)
- UL 924 Self-Diagnostics
- 0-10V Dimmable: 100%-1%, 0% or Pulse DIM
- Compatible with Fulham SmartSet

General Specifications

Input Voltage / Frequency	120-277VAC (+/- 10%), 50/60Hz
Input Current	0.71A@ 120VAC, 0.32@ 277VAC
Input Power	85W (Max.)
Input PF	>0.9, see Fig. 5
THD	<20, see Fig. 4
Efficiency	>90%@ 29.2Vout / 1920mA-400mA >91.5%@ 55.0Vout / 1020mA-1270mA
Inrush Current	<25A at 120VAC, <50A at 230VAC, <60A at 277VAC
Max Leakage Current	<0.45mA
Output Voltage Range	11-55V
Output Current	350mA-2400mA, (R-set 350-2400) Factory default 350mA / RSET
Output Power	70W for LED load
Line Regulation / Load Regulation	<1% @Full Load / <3% @Full Load
Battery Type	9.6V 14.4Wh LiFePO4
Low Frequency Ripple (120Hz ripple peak to peak)	<5% @Full Load
Dimming Type	0-10V or Pulse DIM
Dimming Insulation	0-10V Isolated to AC input and output
Operating Ambient Temperature Range	0°C to 50°C (32°F to 122°F) @3-6W Emergency Power 10°C to 50°C (50°F to 122°F) @7W Emergency Power
Maximum Driver Case Temperature	75°C (167°F) for UL and cUL, 85°C (185°F) for UL safety
Start-up Time	<750ms
Standby Power	<0.7W
Test Switch Remote Mounting Distance	10' (3m) Max.
Driver Output Type	Class 2
Overall Size	16.7"L x 1.18"W x 1.0"H(424mm L x 30mm W x 25.4mm H)
Weight	607g / 1.33lb.
Safety / Compliance	CEC Title 20 RoHSCompliant UL LISTED with Self-Diagnostics to UL924, Class 2 Rated Output
Withstand Voltage	I/P-O/P:3750VAC, I/P-FG:1610VAC, I/P-Dimming: 1610 VAC, O/P-Dimming: 1610VAC,O/P-FG:500VAC
Insulation Resistance	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/ 500VDC/25°C/90%RH
Potting Type / Degree of Fill	Partial Potting
EMC Emission	FCC Part 15 Class A
EMC Immunity	FCC Part 15 Class A
Operating Humidity	20-95% RH Non-condensing
Protections	Input Voltage Surge 2.5kV / 2.5kV Ring Wave, Compliant with UL924 Input Current Protection Output Short Circuit Protection Output Open Circuit Protection Output to Ground Short Protection Overload Protection Over Temperature Protection
Hot Swappable	NO
Sound Rating	A
Service Life	50,000 hours @ Tc 75°C (167°F),see figure 9
Warranty	5 years warranty @ Tc 75°C (167°F) from the date of manufacture

*FG = Fault Ground **I/P = Input Power ***O/P = Output Power



100%-1%, 0%



Typical Characteristics Graphs: Input

Figure 1

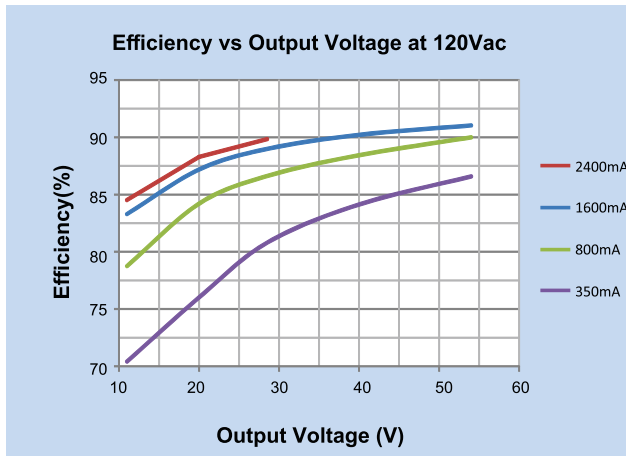


Figure 2

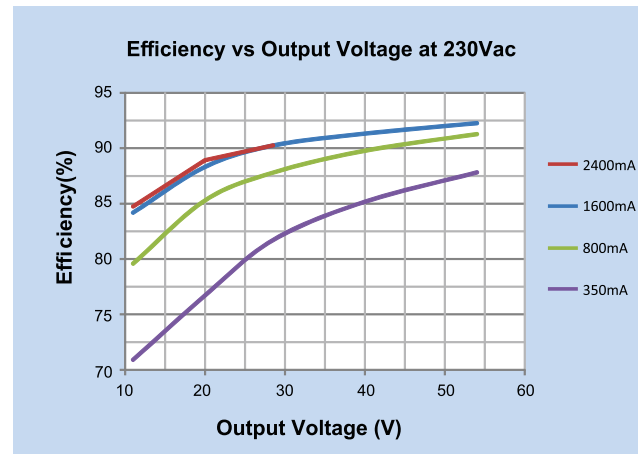


Figure 3

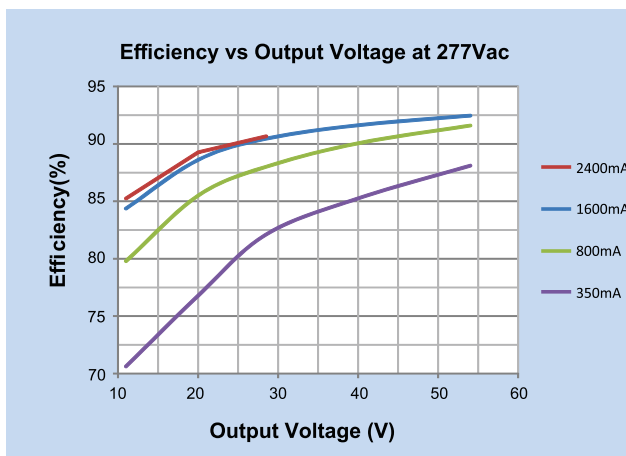


Figure 4

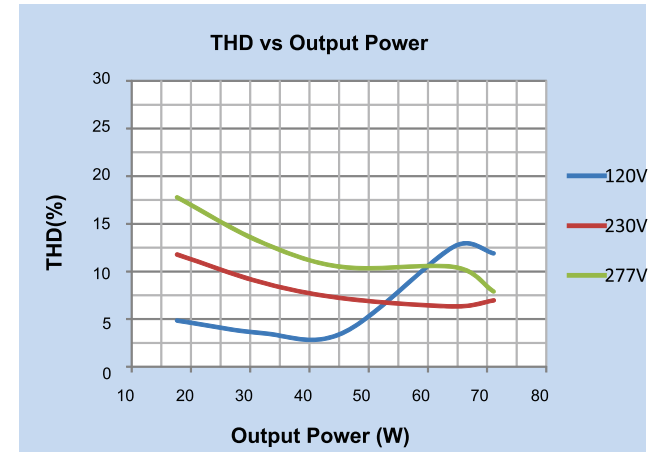
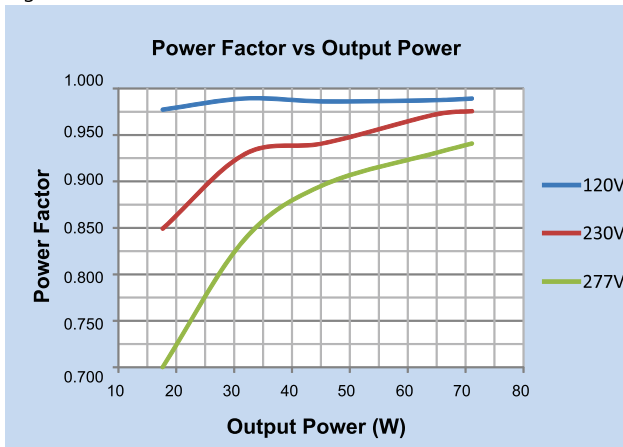
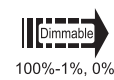


Figure 5





FHSAC1-UNV-70S



Typical Characteristics Graphs: Dimming and Thermal

Figure 6

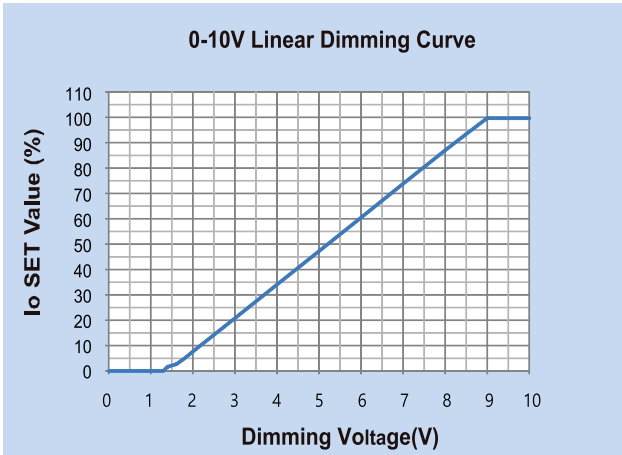


Figure 7

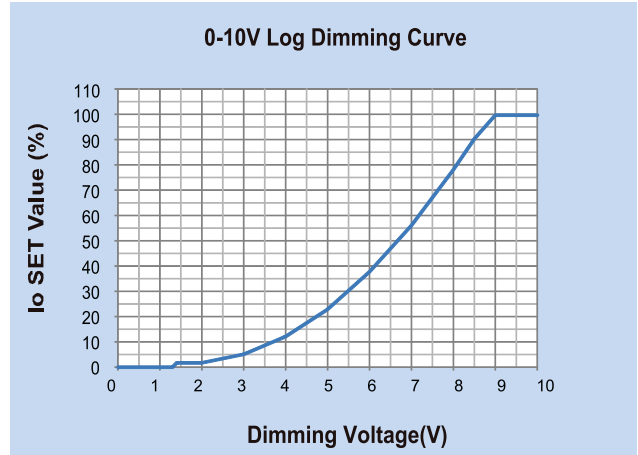


Figure 8

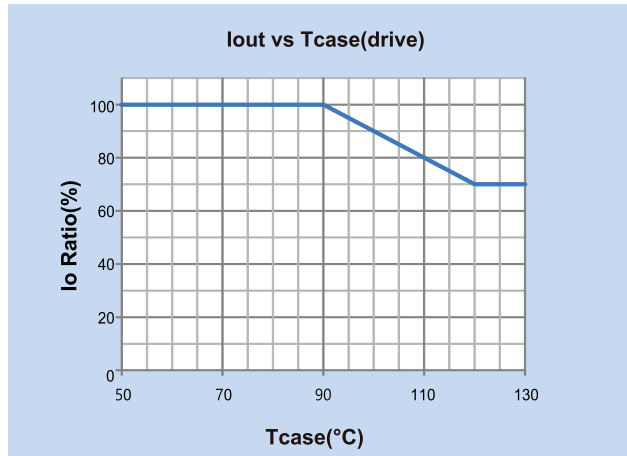
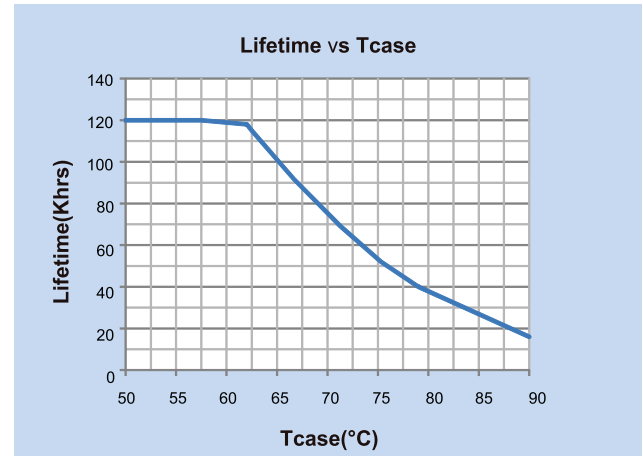


Figure 9



Failure Rate Info based upon MTBF modeling:
90% survivals at end of life @ ≤Tc lifetime rating



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NOM



100%-1%, 0%



RoHS COMPLIANT

Typical Characteristics Graphs: Output

Figure 10

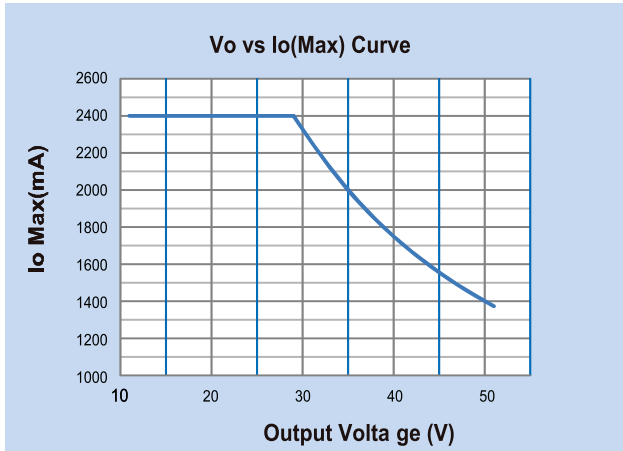


Figure 11

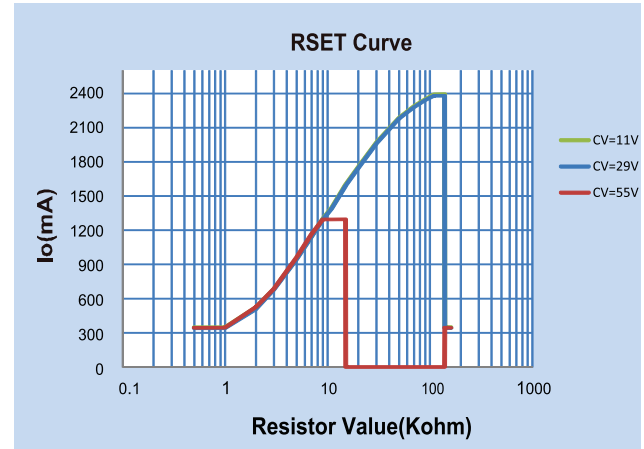
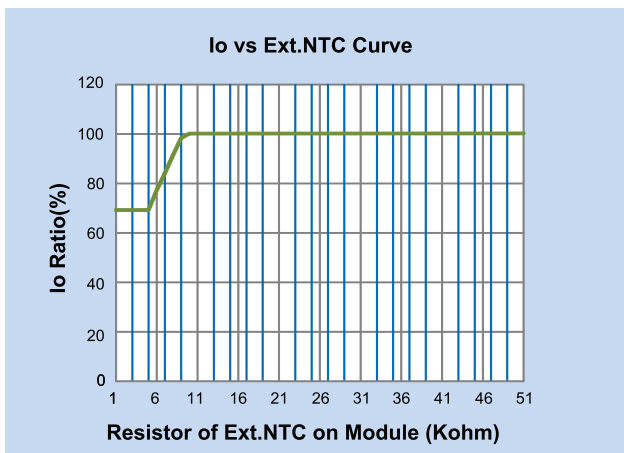


Figure 12





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NOM

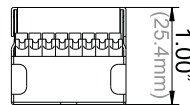


100%-1%, 0%



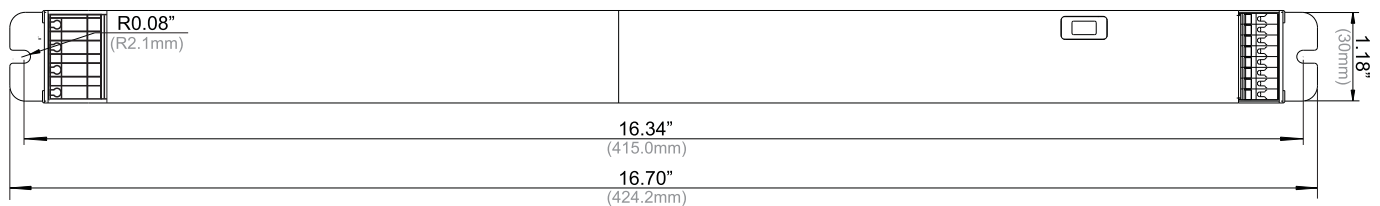
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Mechanical Drawings



SIDE VIEW

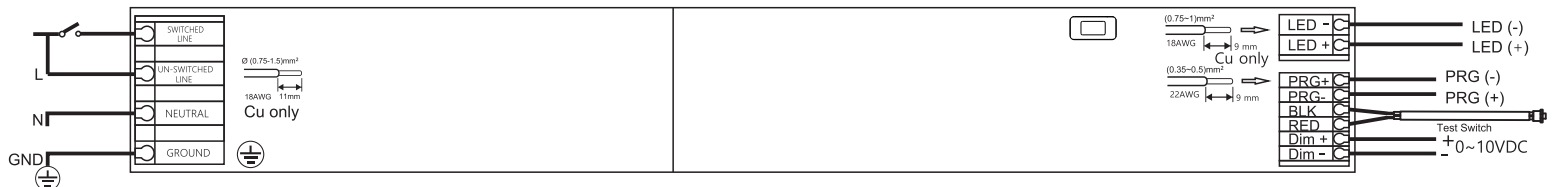
Overall Dimensions	
Length	16.70" [424.2mm]
Width	1.18" [30mm]
Height	1.00" [25.4mm]



TOP VIEW

Tolerance=±0.02"

Wire Diagram



TOP VIEW

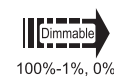
NOTES :

- 1)This driver must be installed by a licensed electrician.
- 2)This driver must be grounded.
- 3)Once the unit has entered into a self-diagnostic cycle it will not exit until it has fully concluded testing regardless of power cycling to the input. In order to exit you must manually hold the test button for 10 seconds or allow the testing to conclude.

CAUTION: Replace battery only with FHSBATL3-1.5HSP.

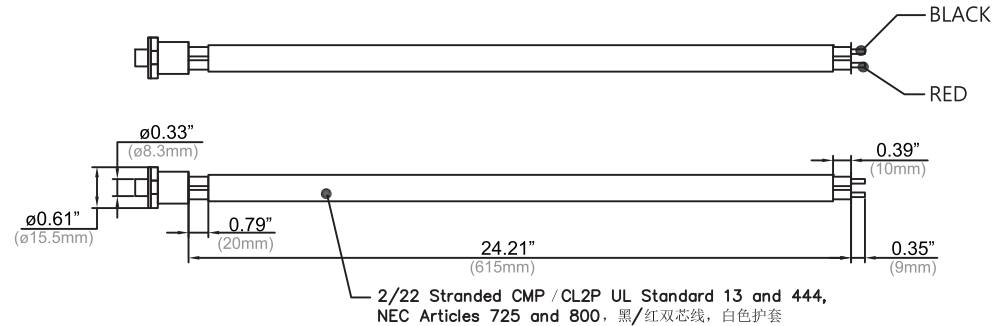
ATTENTION: Remplacer la batterie uniquement par une FHSBATL3-1.5HSP.

FHSAC1-UNV-70S

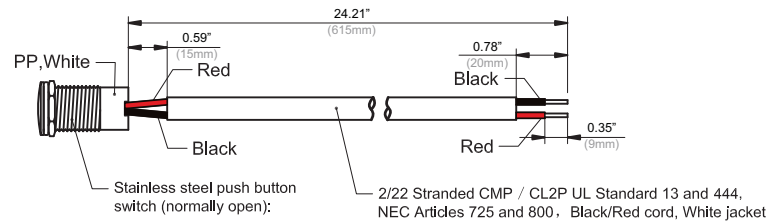


Accessories

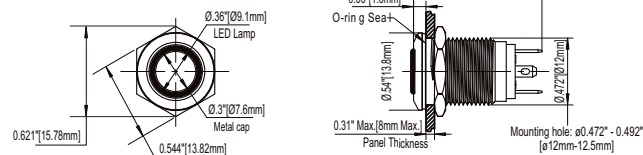
Test Switch (Included)



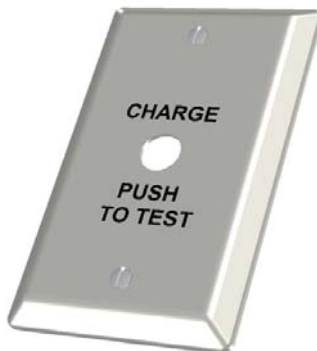
Wet Location Test Switch: FHS-TSTWL-BC (Optional)



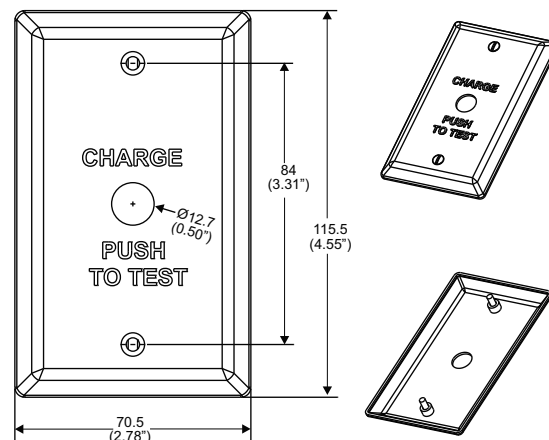
Overall Switch Dimension



Wall Plate: FHSWLPWH



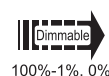
Wall plate and screw color:
white with black lettering



1. "Charge push to Test" plate
2. (2) 6-32 x 1/2" LG mounting screws



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Guidelines

Grounding

- Driver must be grounded by means of the Driver case.

Over temperature protection

- The Fulham Hotspot Plus LED drivers are protected against thermal overload. If the temperature limit is exceeded, the output current is reduced.

LED load

- Fulham Hotspot Plus LED drivers are designed to drive passive LEDs, -COB's and -LED assemblies Proper function is not guaranteed when (LED) loads with active components are used.

Programming

- For detailed programming instructions please see our Programming Instructions and Design Guide found on our website: <https://www.fulham.com/PDFs/SpecSheets/Fulham-Design-Guide-Programmable-Drivers.pdf>

Mounting / Cooling

- Above an output power of 20W, the driver needs to be mounted on a heat conductive surface of at least 200cm². Always test if the surface is sufficient enough before installing the driver.

Short-circuit protection

- In case of a short circuit the LED driver switches to protection mode. After the removal of the short-circuit the LED driver will recover automatically.

No-load Operation

- In no-load operation the output voltage will not exceed the specified open circuit output voltage.

Hot Swapping

- This driver does not support hot swapping of the LEDs

Remote Mounting

- Up to 15ft with 18AWG. Contact Fulham for higher remote distance.

Battery Maintenance

- In order to maintain proper operation and warranty coverage, the battery must be recharged once per year prior to installation

Warranty

- Reference Fulham's limited Warranty: <https://cdn.fulham.com/PDFs/Limited-Warranty.pdf>



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100%-1%, 0%



LISTED
E477042

RoHS
COMPLIANT

Part Number Matrix

FHS

LED Driver

FHS = FireHorse HotSpot Driver

AC

AC LED Driver

AC=AC LED Driver

1

LED Driver Number

1 = Programmable Output

UNV

Input Voltage

UNV = 120V

70

Power

70 = 70W

S

Case Type

S = Stick

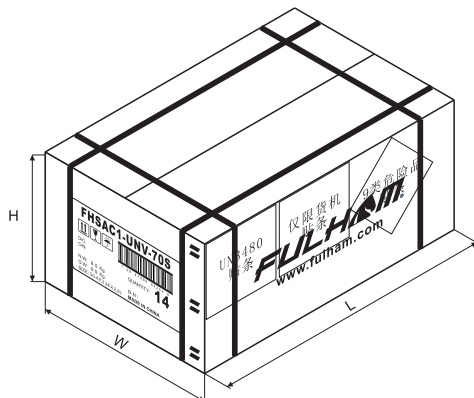
Product Image: FHSAC1-UNV-70S

FHSAC1-UNV-70S



Packaging

Master Carton



OUTER DIMENSION		
L	W	H
19.84"(504mm)	9.21"(234mm)	8.86"(225mm)
Net Weight	Gross Weight	QUANTITY
18.74 lbs. (8.5kg)	21.83lbs. (9.9 kg)	14pcs.