

SPECIFICATION FOR APPROVAL

Customer : _____

Customer P/N : _____

Product Type : **Digital Ballast**

Product No. : **630W Digital Ballast**

Issue Date : **2019.01.31**

Prepared By			
Checked By	R&D	DQE	QC
Approved By			

Web: www.lumatek-lighting.com

Revision History

[illegible]

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1. Description

This is a 630W intelligent electronic ballast .Input voltage is 220-240V , 50/60Hz. Knob dimming range can be 80%-90%-100% . It will delay 0-6 ignition randomly.It can match well with 630W CMH.

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2. Function and parameters

2.1 Knob Control

2.1.1 Input Characteristics

Parameter	Conditions	Min	Type	Max	Units
Mains Performance	Operational Performance	195	220-240	265	V
	Operational Safety	185	220-240	275	
Mains Frequency f_{mains}	Operational Performance	48	50/60	63	Hz
	Operational Safety	45	50/60	66	
Mains Power P_{mains}	P=100%	637	657	667	W
	P=90%	581	601	621	
	P=80%	515	534	554	
Mains Current I_{mains}	$V_{\text{mains}} = 240\text{V}$	2.6	2.8	2.9	A
	$V_{\text{mains}} = 230\text{V}$	2.7	2.9	3.0	
	$V_{\text{mains}} = 220\text{V}$	2.9	3.0	3.1	
	$V_{\text{mains}} = 195\text{V}$	3.3	3.4	3.5	
Power Factor	P=100%	0.97	0.98	--	--
THD	P=100%	--	--	10%	--
Inrush Current	$V_{\text{mains}} = 240\text{V}$ $T_a = 25^\circ\text{C}$, cold start	--	--	30	A
		--	--	0.8	ms

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2.1.2 Output Characteristics

Parameter	Conditions	Min	Type	Max	Units
Lamp Frequency f_{lamp}	P=100%	100	130	150	KHz
Efficiency(%)	P=100%	95	96	--	--
Lamp Power P_{lamp}	P=100%	610	630	640	W
	P=90%	547	567	587	
	P=80%	484	504	524	
Lamp Voltage	630 CMH	175	195	225	V
Ignition Voltage	C_{load} <100pF	3000	4000	5000	V
Ignition Interval	--	0.5-0.5-0.5-5-5-5-5-10			Min

Note: 1.Dimming accuracy is 3%

2.The parameters of input and output, such as no special requirements, It test in products in therated operating voltage and match with standard load stability after 10min .

2.2Recommended Matching Lamps

Lamp	LUMATEK CMH 630W
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2.3 Protection

2.3.1 Open Circuit Protection

When output is shut off, the ballast will power off for open circuit protection. When errors are removed and the power is re-applied to the product, it can work normally.

2.3.2 Short Circuit Protection

When output is shorted, the ballast will power off for short circuit protection. When errors are removed and the power is re-applied to the product, it can work normally.

2.3.3 Over Temperature Protection

When $T_a > 40^{\circ}\text{C}$, the ballast will shut off for high temperature protection. When the temperature drops to normal and the power is re-applied to the product, it can work normally.

2.3.4 Lamp END of Life/Rectification

The ballast will be not damaged when the rectification appears at the end of the lamp life. When replacing a new lamp and the power is re-applied, it can work normally.

2.3.5 Over-voltage/ Low-voltage Detect Protection

Protection happens when input voltage is below 175V or up to 275V (Output power will drop to 90%, when input voltage is 175-195V). When input voltage is back to normal, the ballast can work normally.

Note: Voltage accuracy is 3%.

2.3.6 LED status

Status	LED
Output lock down	Flash*1
Output errors	Flash*2
Low input voltage	Flash*3
Over temperature	Flash*4
High input voltage	Flash*5

Note: when the controller is controlled, LED (controller) flashes 2 times every 2S, When the controller is not contacted or connection failed, LED (controller) is lighting, if the 3min is still no control signal, "controller" flash, the product is shut down.

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3. Environment

Environment \ Conditions	Operating	Shipping and Storage
3.1 Temperature	-20°C--+40°C	-40°C--+70°C
3.2 Humidity	20%--90%, non-condensing	10%--95%, non-condensing
3.3 Vibration	Amplitude: 0.035mm	Amplitude: 0.15mm
	Frequency: 10-150Hz	
	Test time in any Direction: 30min	
	Sweep velocity: 1oct/min	
	Direction: X,Y,Z	
3.4 Waterproof and dustproof	IP20	

4. Safety

4.1 Surface Temperature Rise

When output power is 630W, ambient temperature is 25°C and input voltage is 220Vac, the surface temperature rise will be less than 40°C.

4.2 Leakage Current

$0.75 \text{mA}_{\text{max}} V_{\text{mains}} = 240\text{V}/60\text{Hz}$.

4.3 Insulation Resistance

The insulation resistance shall be no less than 2M ohm after application of 500Vdc for 60s.

4.4 Dielectric Withstand Voltage (HI-POT)

L,N-PE: 1500Vac 5.5mA_{max}/60s.

4.5 Grounded Resistance

$< 0.5\Omega$, 30A, 60s.

4.6 Regulatory Standards

EN 61347-1

EN 61347-2-12

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5. EMC

5.1EMI

EN55015

Limit value of radio disturbance characteristics of electrical lighting and similar equipment.

5.2EMS

5.2.1 Surge Immunity

IEC 61000-4-5:

L-N: $\pm 1\text{KV}$;

L/N-PE: $\pm 2\text{KV}$.

5.2.2 Electrical Fast Transient

IEC 61000-4-4:

L-N-PE : $\pm 1\text{KV}$.

5.2.3 Voltage Dips and Interruptions Immunity

IEC 61000-4-11:

Drop: 30% ;cycles: 10;

Drop: 100% ;cycles: 0.5.

5.2.4 Electrostatic Discharge Immunity

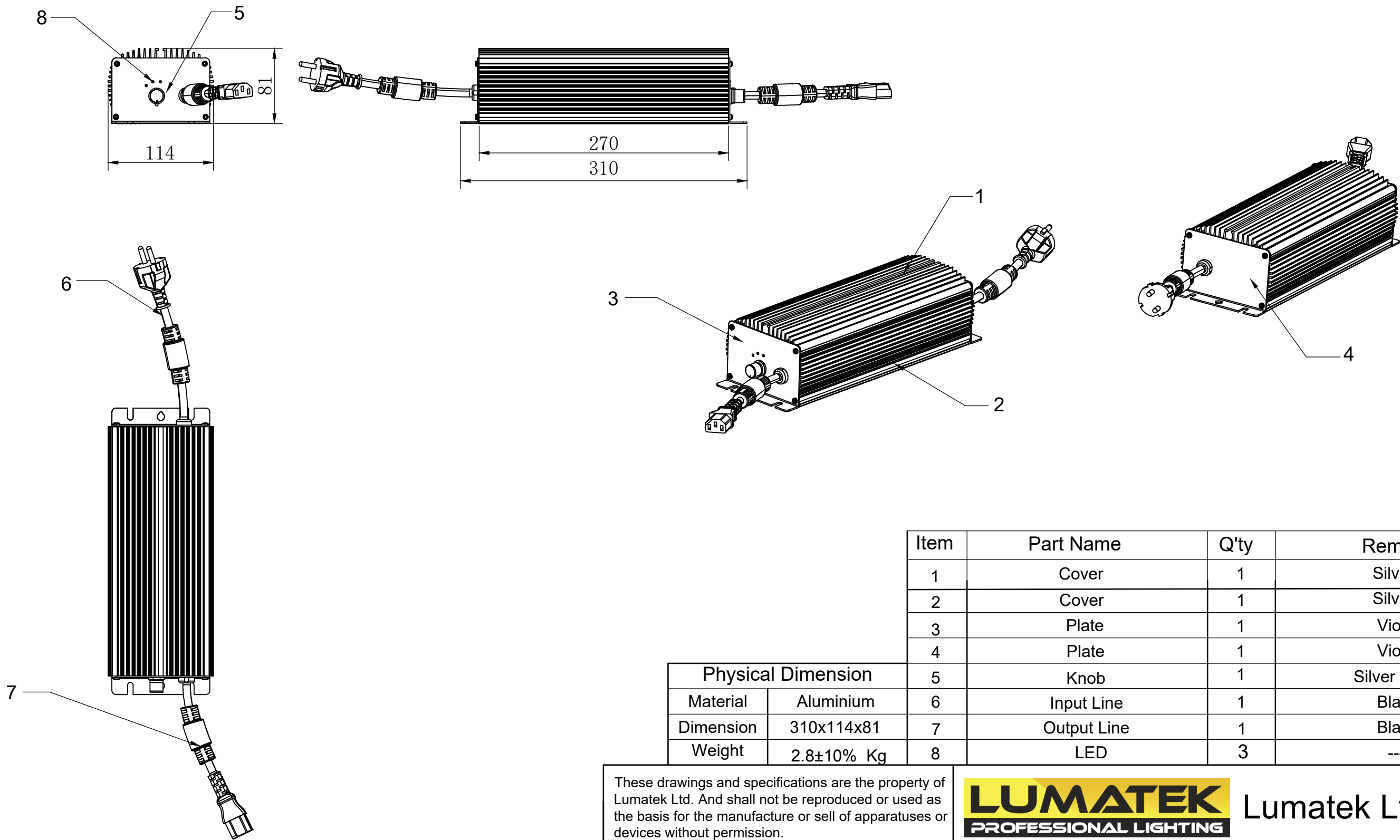
IEC 61000-4-2:

Contact discharge: $\pm 4\text{KV}$;

Air discharge: $\pm 8\text{KV}$.

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6 Physical Dimension



Item	Part Name	Q'ty	Remark
1	Cover	1	Silvery
2	Cover	1	Silvery
3	Plate	1	Violet
4	Plate	1	Violet
5	Knob	1	Silver White
6	Input Line	1	Black
7	Output Line	1	Black
8	LED	3	---

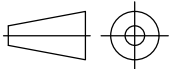
Physical Dimension	
Material	Aluminium
Dimension	310x114x81
Weight	2.8±10% Kg

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Dimensional Tolerances (V)		Holes:±0.05 ()		Angles:±0.5° ()	
<30	:±0.25	Decimals	Up~100 :±0.2	250~300 :±0.4	Up~600 :±1.5
>30~100	:±0.35	.X :±0.3	100~150 :±0.25	300~350 :±0.45	600~900 :±2.4
>100~300	:±0.5	X.X :±0.2	150~200 :±0.3	350~400 :±0.5	900~Over:±3.1
Above300	:±0.6	X.XX :±0.1	200~250 :±0.35		

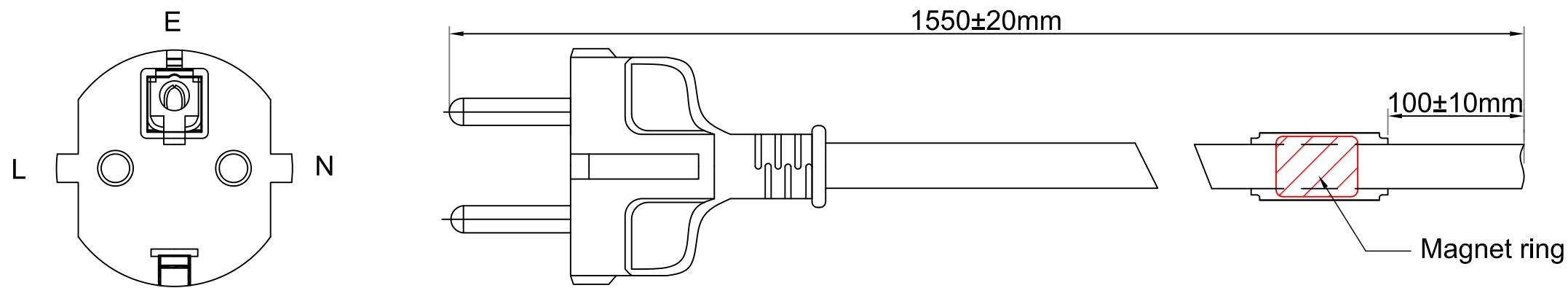


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 First Angle Projection	Description:		REV P00
	Part No:		
	Used On:	630W Digital Ballast	SIZE A3

Scale	---	Unit	mm	Sheet 1 Of 1	Issue Date:	Drawn:	Design:
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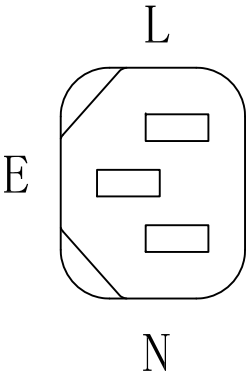
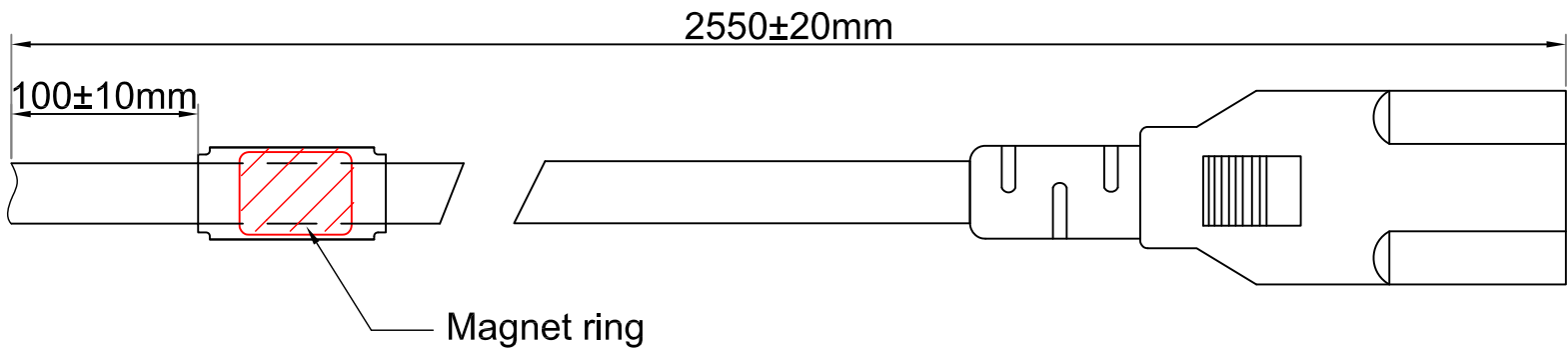
7 Input



Technical requirements:
1.Emifil: 19×50.8×10.15
2.Power cord: Emifil set on the power cord directly, seal
3.Specifications:VDE H05VV-F 3×1.5mm2 70℃

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							First Angle Projection	Description:	Input	REV
								Part No:	--	P00
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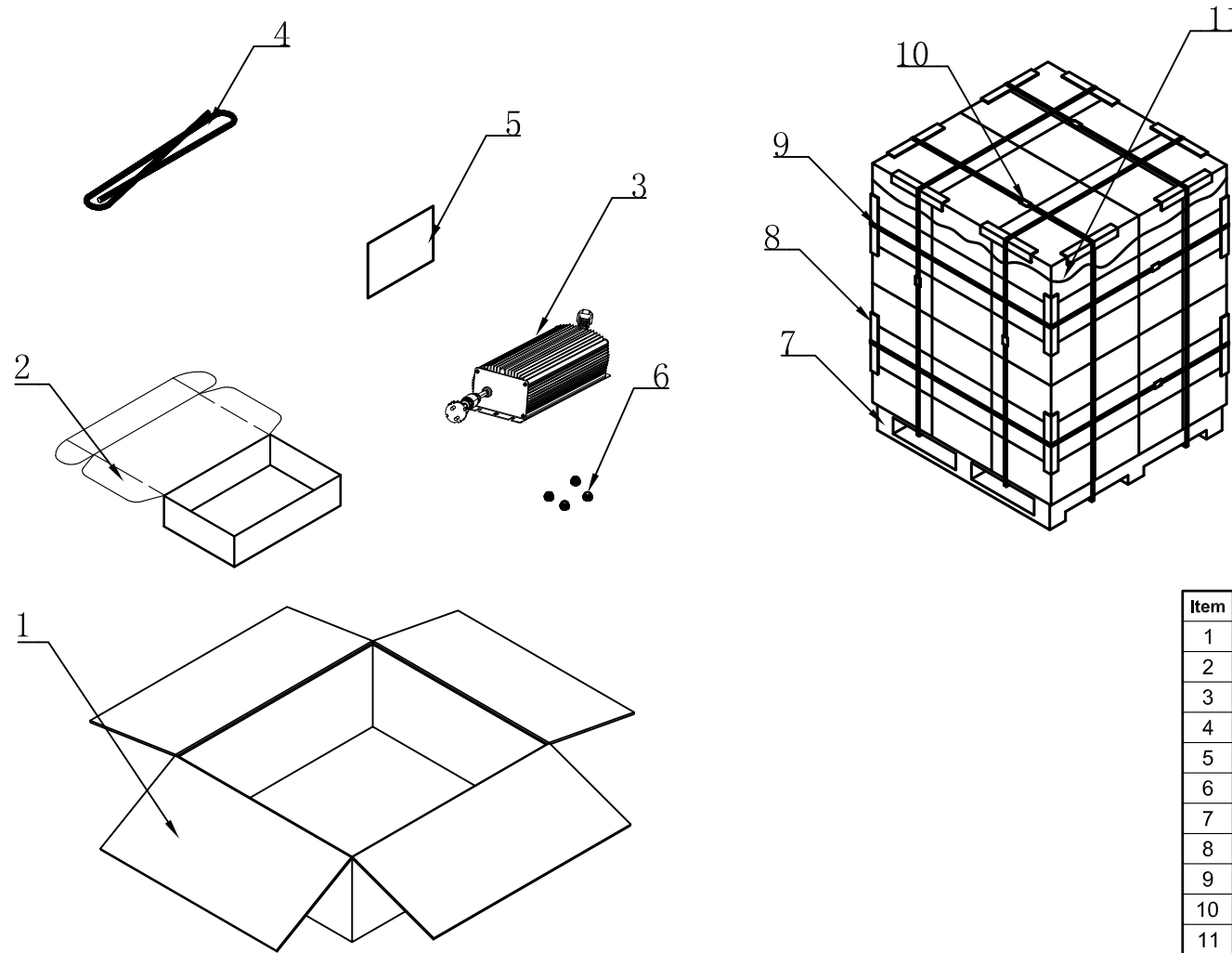
8 Output



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	First Angle Projection	Description:	Output	REV
		Part No:	--	P00
		Used On	630W Digital Ballast	SIZE
Drawn:	Design:			A3

9 Packing(TBD)



Item	Part Name	Outside Dim(mm)	Q'ty
1	Carton	396×364×208	1/4
2	Inner Box	342×186×85	1
3	Digital Ballast	310×114×81	1
4	Signal line	\	1
5	Instruction	297×210	1
6	Rubber Feet	\	4
7	Pallet	1100×1100×150	1/n
8	Angle Paper	320×45×45	\
9	Plastic Strip	\	\
10	Staple Wire	\	1
11	PE Film	t=0.02	1

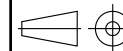
Notes:

1. Units:mm
2. All the packing material should meet Lumatekspecification.

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First Angle
Projection

Description:		REV P00
Part No:	—	
Used On:	630W Digital Ballast	SIZE A3

Scale

—

Unit

mm

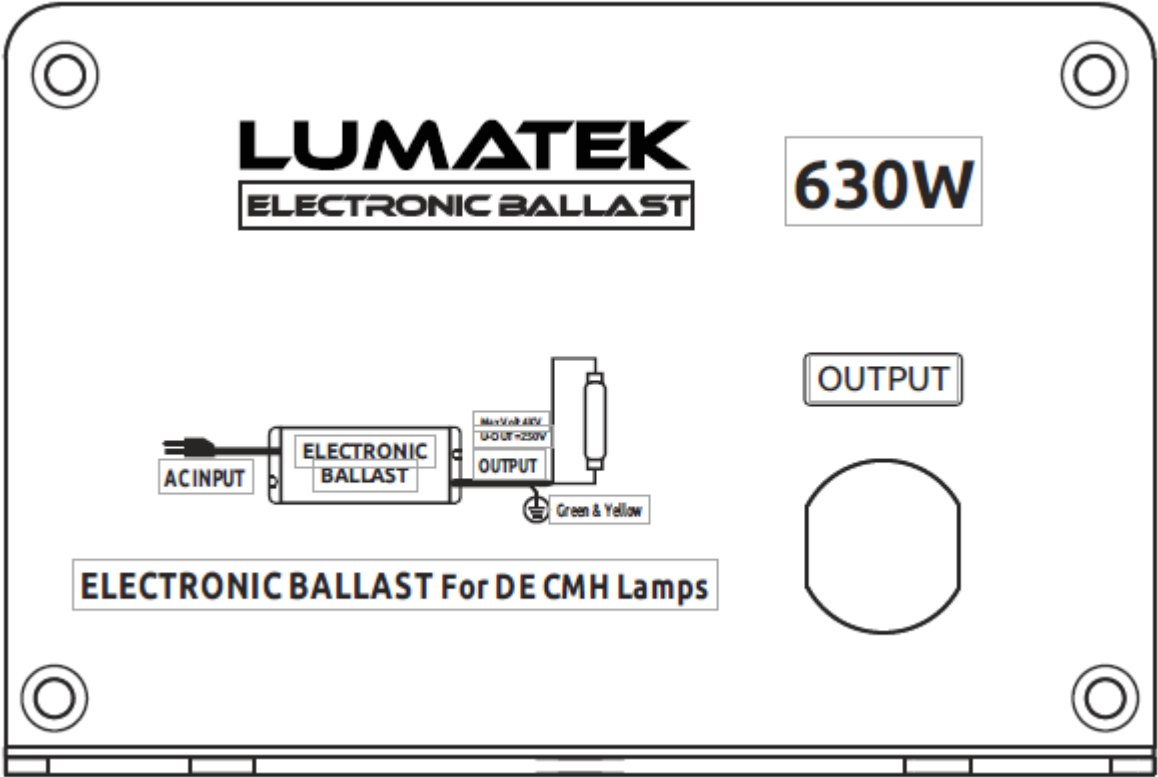
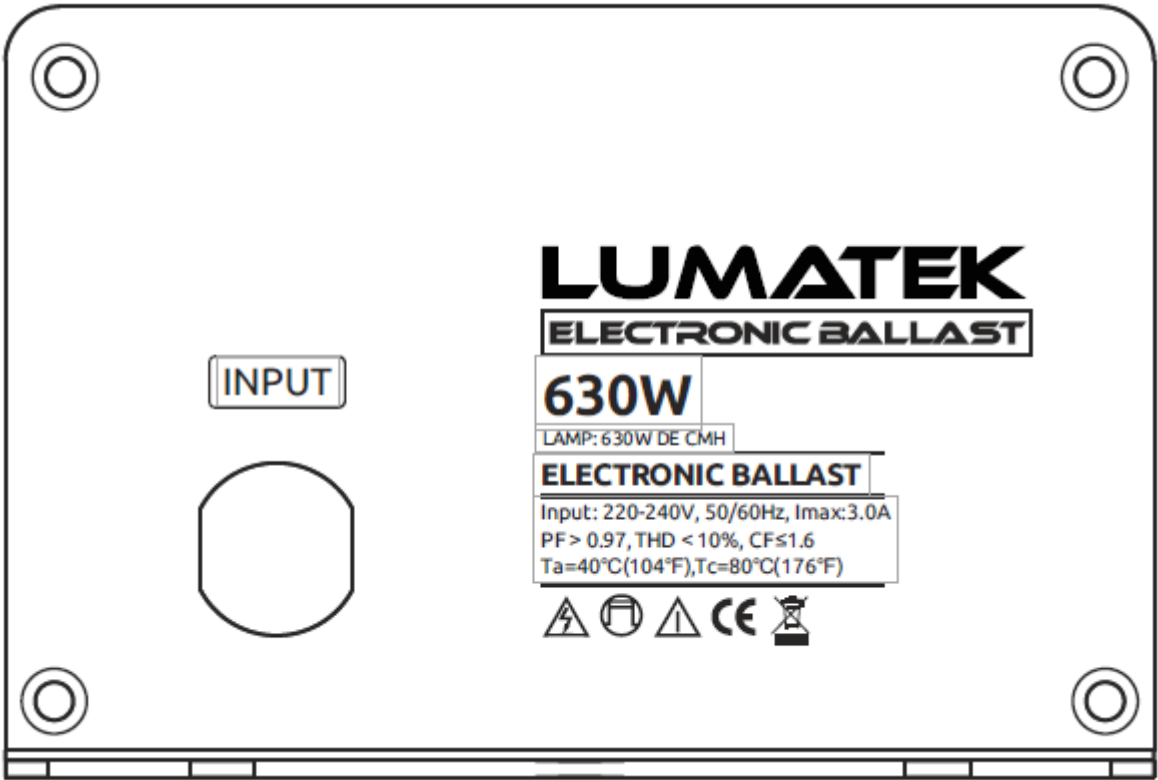
Sheet 1 Of 1

Issue Date:

Drawn:

Design:

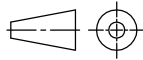
10 Mark(TBD)



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First Angle Projection

Description:	Mark	REV P00
Part No:	--	
Used On	630W Digital Ballast	SIZE A3

Scale	--	Unit	mm	Sheet 1 Of 1	Issue Date:	Drawn:	Design:
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