

SPECIFICATION FOR APPROVAL

Customer : _____

Customer P/N : _____

Product Type : **Digital Ballast**

Product No. : **1000W Pro Digital Ballast**

Issue Date : **2017.09.11**

Prepared By			
Checked By	R&D	DQE	QC
Approved By			

Web: www.lumatek-lighting.com

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1. Description

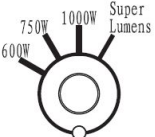
This is an 1000W intelligent electronic ballast. Input voltage is 240V, 50Hz. It will have 0-6S delay ignition for random. And knob dimming range can be 600W-750W-1000W- Super Lumens. This ballast can match well with 1000W DE lamps.

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2. Function and parameters

2.1 Knob Control

2.1.1 Input Characteristics

Parameter	Conditions	Min	Type	Max	Units
Mains Voltage	Operational Voltage	215	240	265	V
	Safe Voltage	205	240	275	
Mains Frequency f_{mains}	Operational Frequency	48	50	63	Hz
	Safe Frequency	45	50	66	
Mains Power P_{mains} 	P=Super Lumens	1067	1100	1133	W
	P=1000W	1017	1050	1083	
	P=750W	762	795	828	
	P=600W	603	636	669	
Mains Current I_{mains}	$V_{\text{mains}} = 240\text{V}$	4.4	4.6	4.8	A
	$V_{\text{mains}} = 215\text{V}$	5.0	5.2	5.4	
Power Factor	P=Super Lumens	0.98	0.99	--	--
THD	P=Super Lumens	--	--	10%	--
Inrush Current	$V_{\text{mains}} = 240\text{V}$	--	--	30	A
Pulse Duration	--	--	--	0.8	ms

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2.1.2 Output Characteristics

Parameter	Conditions	Min	Type	Max	Units
Lamp Frequency f_{lamp}	P=Super Lumens	105	120	140	KHz
Efficiency(%)	P=Super Lumens	94	96	--	--
Lamp Power P_{lamp}	P=Super Lumens	1017	1050	1083	W
	P=1000W	967	1000	1033	
	P=750W	717	750	783	
	P=600W	567	600	633	
	Lamp Voltage	1000W DE HPS	200	250	330
Ignition Voltage	$C_{load} < 100pF$	3000	4000	5000	V
Ignition Interval	--	1-5-5-5-5			Min

2.2 Recommended Matching Lamps

Lamp	PHILIPS PLUS Green Power 1000W 400V
	AUVL ADVNCED UV LIGHT 1000W 400V
	GE LU400V/1000W/PSL/TD
	USHIO AHS-DE 1000/OPTI-RED

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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 85% when input voltage is 175-195V). When input voltage is back to normal, the ballast can work normally.

Note: Voltage accuracy is 5%.

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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	
3.4 Waterproof and dustproof	IP20	

4. Safety

4.1 Surface Temperature Rise

When output power is 1000W, ambient temperature is 25°C and input voltage is 240Vac, the surface temperature rise will be 30°C.

4.2 Leakage Current

$1mA_{max} V_{mains}=240V/50Hz.$

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

$<0.5 \Omega, 25A, 60s.$

4.6 Regulatory Standards

EN 61347-1 : 2008

EN 61347-2-12 : 2005

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5. EMC

5.1 EMI

EN55015

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

5.2 EMS

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

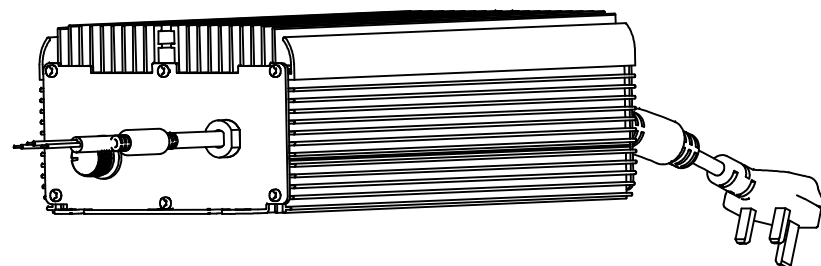
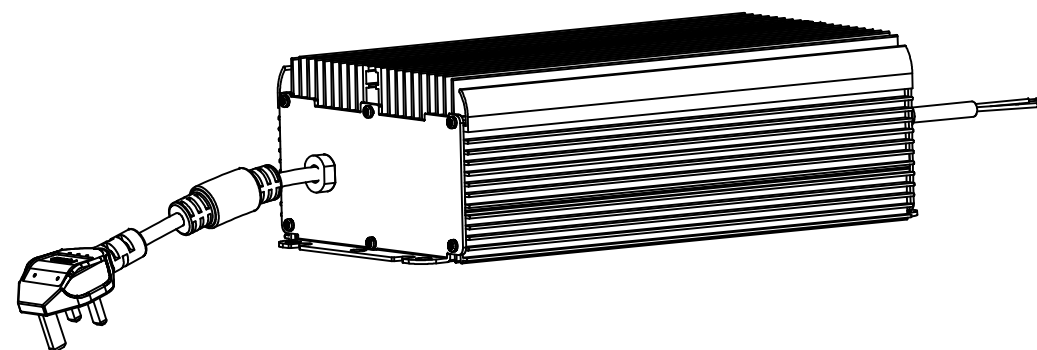
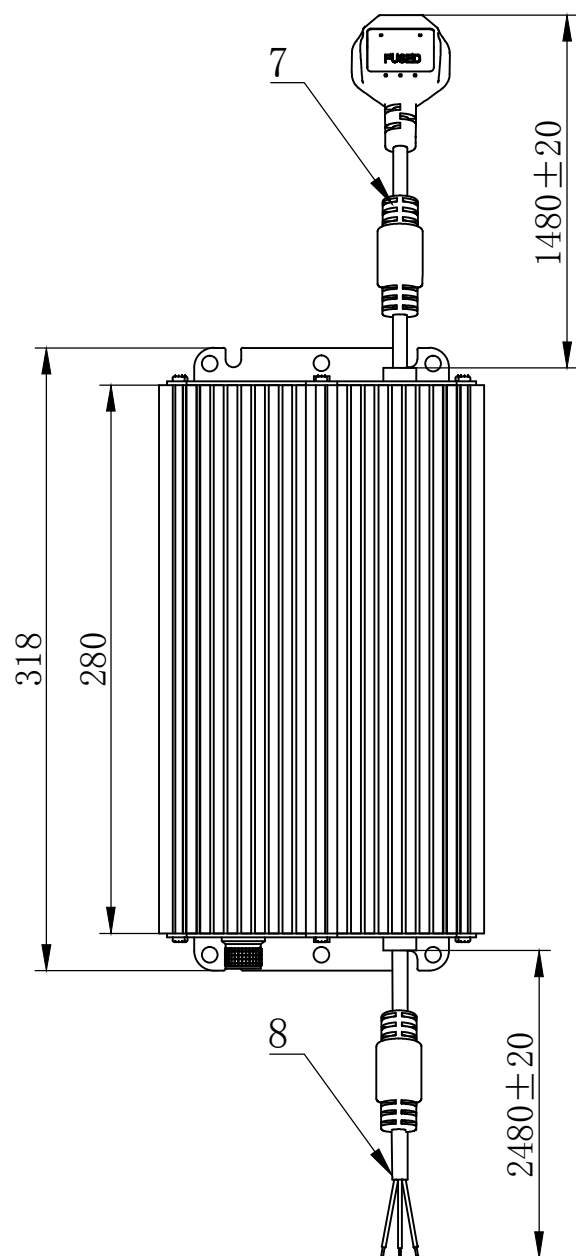
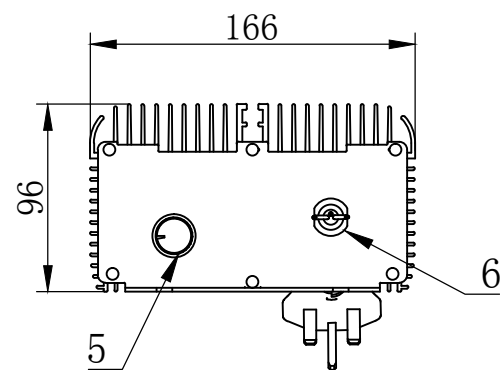
IEC 61000-4-2:

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	Purple
2	Cover	1	Purple
3	Plate	1	Purple
4	Plate	1	Purple
5	Knob	1	Silver White
6	Strain Relief Bushing	2	Black
7	Output Line	1	Black
8	Input Line	1	Black

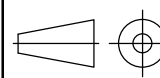
Physical Dimension	
Material	Aluminium
Dimension	318×166×96
Weight	4.5±10%Kg

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Dimensional Tolerances (V)		Holes: ±0.05 (I)		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	XX ±0.2	150~200 ±0.3	350~400 ±0.5	900~Over: ±3.1
Above300	±0.6	XXX ±0.1	200~250 ±0.35		

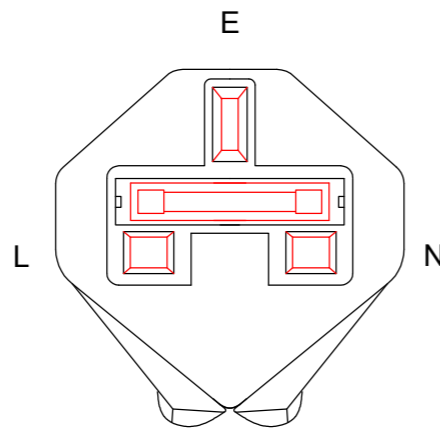
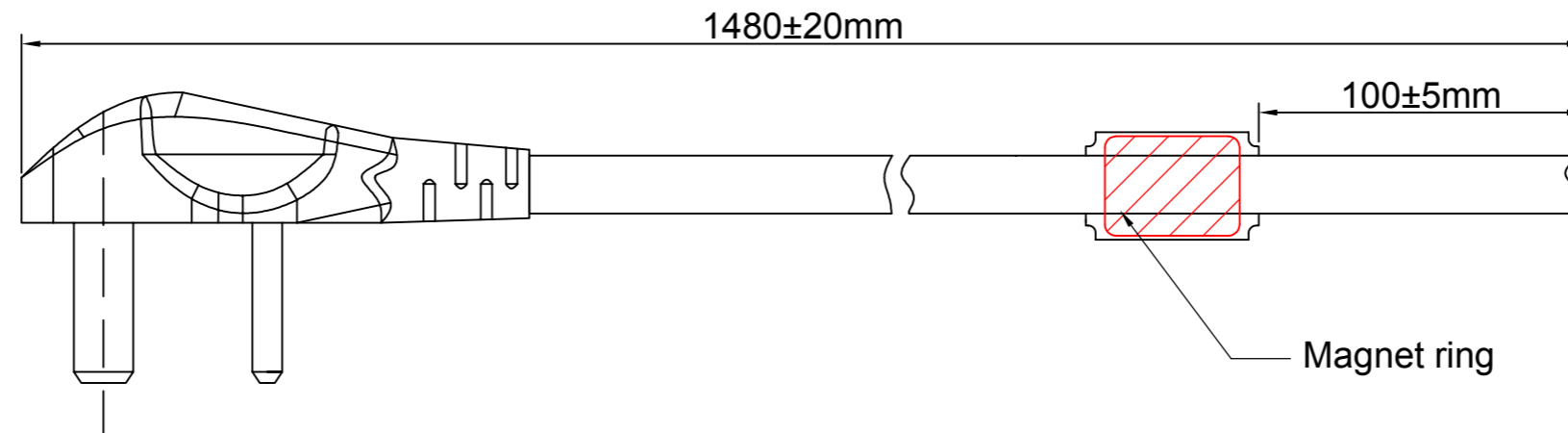


First Angle Projection

Description:		REV
Part No:		P00
Used On:	1000W Pro Digital Ballast	SIZE
		A3

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



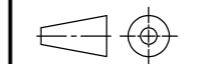
Technical requirements :

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 °C

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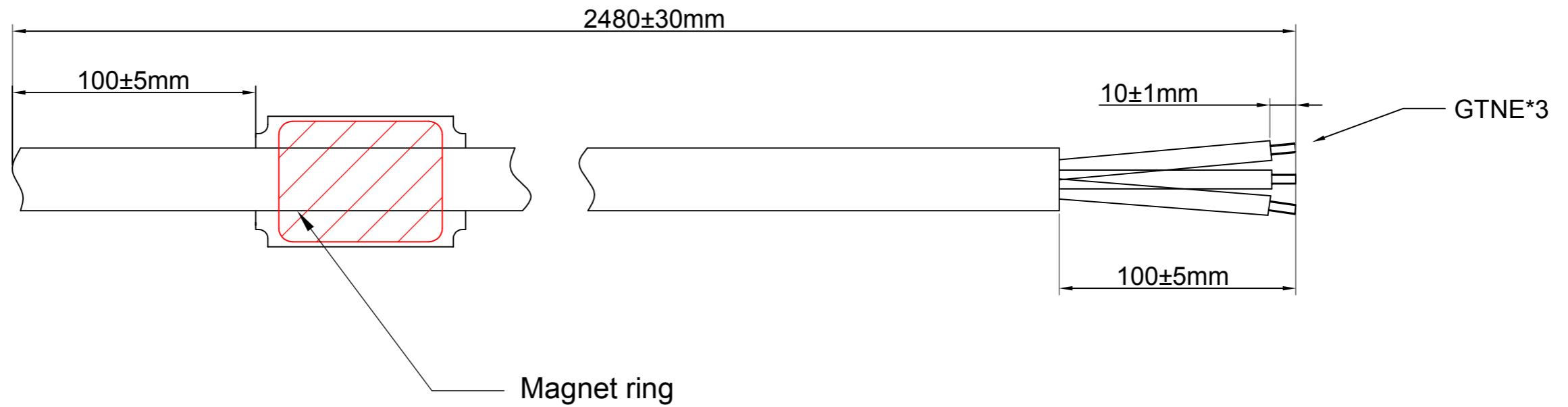


First Angle Projection

Description:	Input	REV
Part No:	--	P00
Used On	1000W Pro Digital Ballast	SIZE
		A3

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

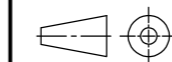


- Technical requirements :
1. Emifil: $19 \times 50.8 \times 10.15$
 2. Power cord: Emifil set on the power cord directly, seal
 3. Specifications: VDE H05VV-F $3 \times 1.5 \text{ mm}^2$ 70°C

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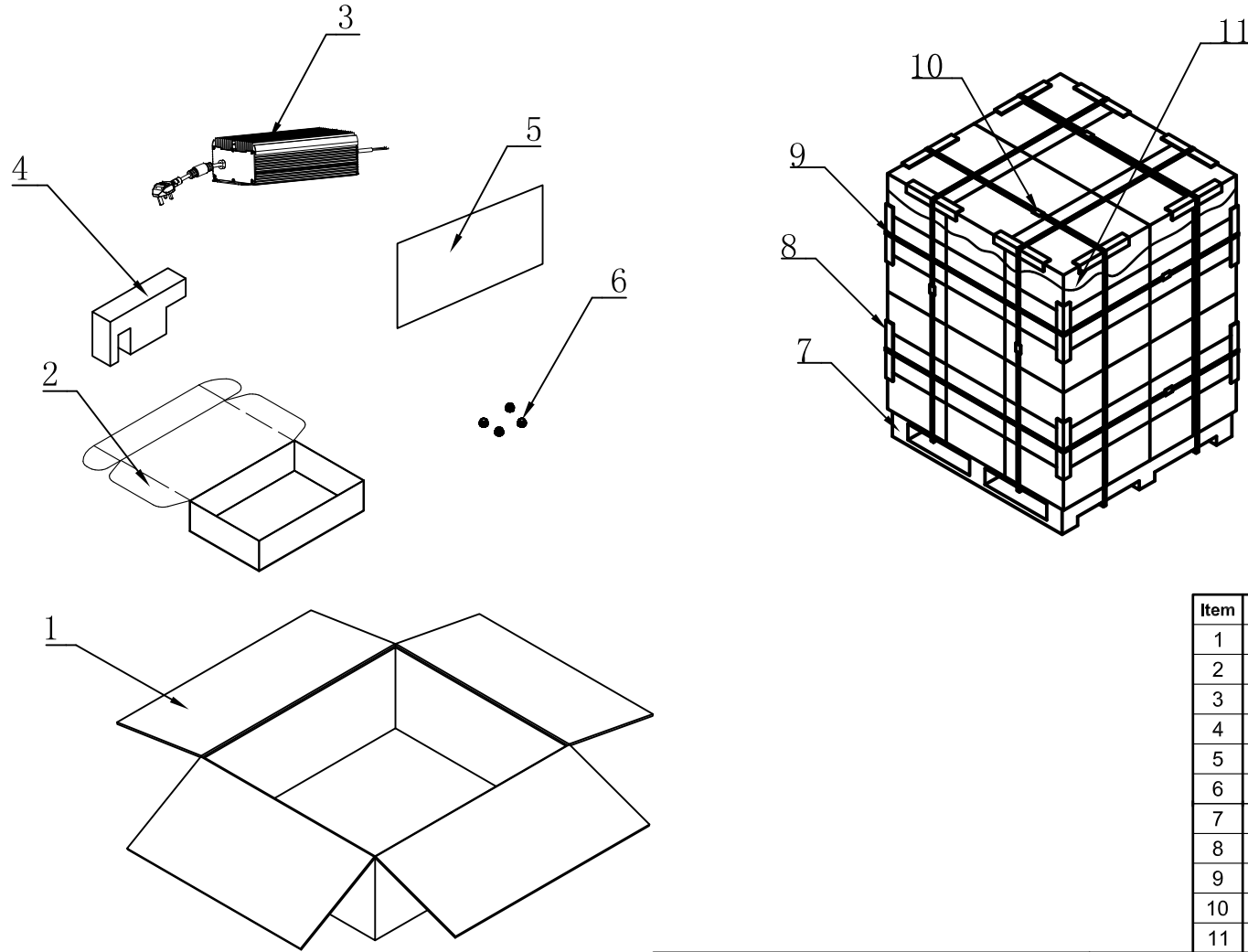
First Angle Projection

Description:	Output	REV
Part No:	--	P00
Used On	1000W Pro Digital Ballast	SIZE
		A3

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

Drawn: Design:

9 Packing



Item	Part Name	Outside Dim(mm)	Q'ty
1	Carton	504×367×131	1/2
2	Inner Box	346×238×99	1
3	Digital Ballast	318×166×96	1
4	EPE	148×75×20	3
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

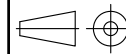
Notes:

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

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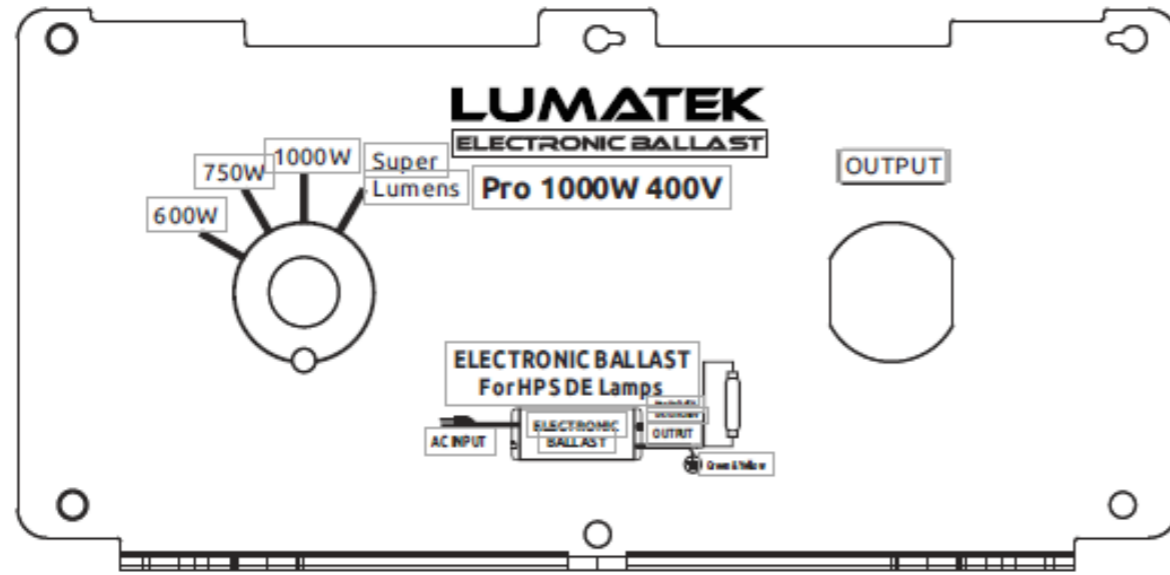


First Angle Projection

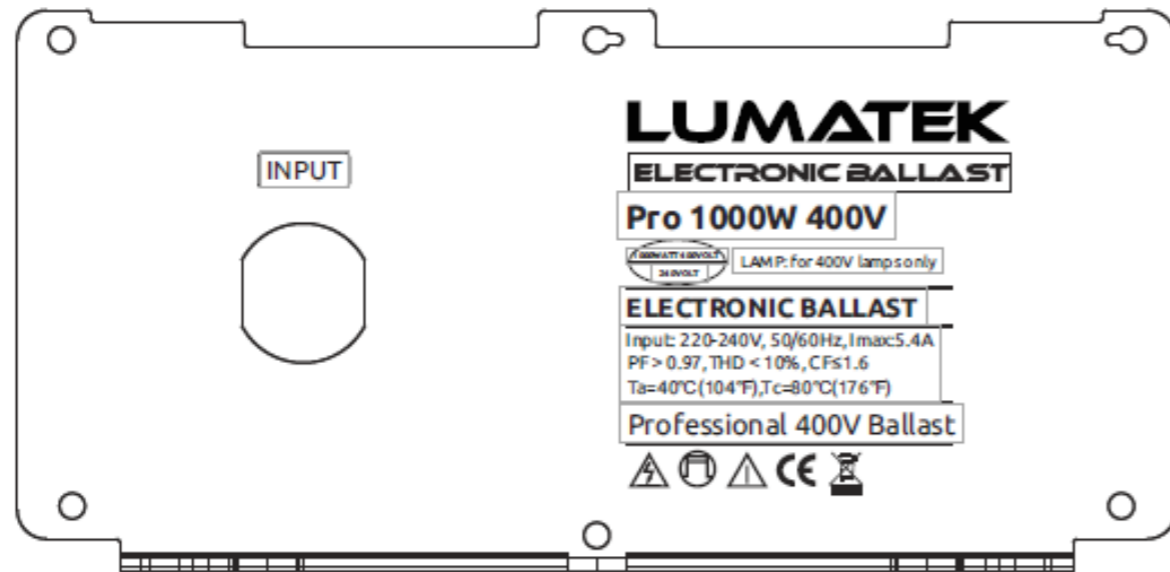
Description:		REV P00
Part No:	-	SIZE A3
Used On:	1000W Pro Digital Ballast	

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



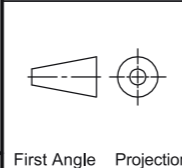
LK1TH240ProUK 1000Watt



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First Angle Projection

Description:	Mark	REV P00
Part No:	--	
Used On	1000W Pro Digital Ballast	

SIZE
A3

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